First Aid for Trail & Home

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First Aid for Trail and Home, Part 1

Wounds and Their Treatment

By Stan Walchuk, Jr.

If you're out riding on the trail or off in the backcountry where a vet isn't accessible, you should have a basic knowledge of equine first aid in the event that your horse sustains an injury.

Understanding first aid for horses is a lifelong learning experience born of necessity. Injury and illness are unpleasant realities for horse owners and trail riders, and although seeking the advice of a veterinarian should always be your first choice when dealing with a serious medical condition, if it happens on a trail ride you must be able to respond appropriately until the horse can be seen by a vet.

I do not pretend to be a vet, but years of hauling, remote riding, and keeping large numbers of horses, combined with a background in zoology, have afforded me some insight into equine first aid. When looking back at the injuries and sicknesses that have occurred during my 40 years of trail adventures, from stone bruises and sprains, to cuts, colic, and equine anemia, one might be inclined to ask: Why go out there if these things could happen? The reality is that injury and illness can just as easily occur at home, and a basic understanding of how to treat these maladies is absolutely essential for every horse owner.

Assess the Situation

When you are faced with a first aid situation, begin with a quick assessment of the horse for broken bones, injury to the head or eyes, and wounds. Assessing an injury mostly comes down to common sense. If the horse is relatively calm, first minimize movement by tying the horse up before continuing with treatment. If the horse is very excited, moving around, in a confined space, or there are other horses or debris such as trees, brush, or wire in the area, keep your own safety foremost in mind. Do not place yourself in a dangerous situation by barging in and trying to manhandle a distressed horse. Make the area safer to work in by removing any entanglements and waiting for the horse to calm down.

Over the years there have been a few occasions when a serious injury and an excited horse have required a scotch hobble or laying the horse down with a rope before treatment was possible. For trail riders who go on remote trips or travel the back country often, it's a good idea to learn a user-friendly way to lay a horse down with a rope.

Many of us are attached to our horses. Witnessing your companion in distress can cause us excitement and upset equal to or greater than that of the horse, which is exactly what your horse does not need. I have a rule: No matter what happens on the trail, stay calm. The horse needs you to make clear, sensible decisions, and you need to be in the right state of mind to do so. If you fly off the handle or fall to the ground in a wave of tears, you will further agitate your horse.

Vital Signs

It is very important to know how to take your horse's vital signs as this can help you evaluate the horse's level of distress. It is also helpful to be able to relay your horse's vital signs to your veterinarian if he is unavailable in person but can be reached by phone. A regular pulse rate is about 30 to 40 beats per minute at rest. Greater than 60 beats is abnormal. The pulse rate can be taken on the artery just under the cheekbone. Body temperature is taken with a lubricated thermometer in the anus and should be 99.5 to 101 degrees Fahrenheit. A temperature above 102 degrees is cause for concern. Dehydration can be determined by performing a simple pinch

test or gum test. Pinch a small amount of skin on the neck just above the shoulder. The fold of skin you pinch should disappear as soon as you let go; if the fold remains or flattens slowly, the horse is dehydrated. You can also press your thumb against the horse's gum just above the corner incisor, and if it takes longer than two to three seconds for the colour to return, the horse may be in a state of stress, or in shock (due to injury, colic, etc.), or he may be dehydrated.

Treatment of Wounds

A horse has about 55 litres of blood and can lose about 20 percent of it before showing symptoms of low blood volume shock, and as much as 40 percent before death. Death from blood loss is uncommon in horses.

First response for wounds on a horse is almost identical to that for a human. If the wound is bleeding badly, or if blood is squirting out indicating an arterial cut, you first need to stop the bleeding with direct pressure, as firm as necessary until the bleeding stops. Application of pressure can be in the form of a balled towel or cloth, or your hand if a towel is not available. For a serious wound such as this, a vet should be called immediately.

Stopping the bleeding may be easier said than done. We had a two-year-old colt trailing behind its mother deep in the Alberta Rockies when it kicked out at the horse behind. It struck the edge of the long distance bell of the horse behind and sliced itself so deeply just above the point of the hock that it almost cut an artery. Blood shot out at an alarming rate and distance, and the colt was in no frame of mind to let anyone handle his back feet. Hurriedly we laid the horse down and applied direct pressure to the wound. Unfortunately the bleeding persisted and could not be stopped with direct hand pressure.

Figure 1: Tourniquet illustration

In a situation like this it is acceptable to apply a tourniquet (see Figure 1.) Use a balled up cloth as a pressure point and secure it with a cloth wrapped once around the limb and tied with an overhand knot. Place a short stick on the overhand knot, and then tie a square knot on top. Twist the stick to tighten the tourniquet and tape in place. I always carry electrical tape on the trail.

With the tourniquet in place, we made it into camp with the injured colt 15 minutes later.

Tourniquets need to be relieved of their pressure at regular intervals to allow circulation. In the colt's case, it was a full day later before we could relieve the pressure of the tourniquet without bleeding. I could not imagine how the foot had survived that long without blood flow, but here was a great lesson in the vitality of horses. Over time, secondary arteries can enlarge and take up the needed flow of blood. The recovery seemed a miracle to all of us who witnessed the injury.

Once the bleeding has stopped, clean wounds with clean water, and Betadine® (a povidone-iodine solution) or a saline solution. Hibitane® (chlorhexidine) can also be used. If you are at home, hose the wound, but for no longer than several minutes. If the exposed tissue begins to turn white, you have killed it with excessive hosing. Out on the trail, use a spray bottle or splash water onto the wound. Clean stream or lake water may be used if nothing else is available.

Make your own saline solution by stirring two tablespoons of salt into one gallon of water. Add Betadine® to the water until it is the colour of light tea. If you do not have Betadine® or salt, then use water only.

A sanitary cloth or sterile gauze can be used to lightly clean debris from the wound.

Now that the wound has stopped bleeding and is clean, you can apply a topical. For upper body wounds that are soft and weep, a spray or dry spray is often used, as an ointment will slough and not stick as well.

The wound is now ready to be bandaged. Bandaging a wound keeps it clean and free of debris, which can help prevent infection. The wound should remain bandaged until signs of healing (firming and scabbing over) appear.

Different Types of Wounds and Their Treatment
All puncture wounds should be considered serious, as they can result in tetanus (lockjaw), which is virtually a death sentence for the horse that has not been vaccinated against it. Tetanus bacteria is commonly found in soil and dead debris. I once saw a horse contract tetanus from a small stick that had jabbed and stuck between the foreleg and chest. Unnoticed, it took only a week for the horse to go into shock and die.

An iodine solution is often recommended to clean and treat punctures. Due to the aggressive nature of iodine it may be more effective for deep punctures; however, it is not recommended for use on wounds in general due to its tendency to kill healthy tissue.

Peroxide is also commonly used to clean wounds, particularly punctures; however, some vets claim that peroxide can drive contaminants deeper into the wound, and that it kills healthy cells.

Lower leg wounds require a different approach altogether. They often look less serious but can take longer to heal and are more likely to require a bandage or stitching since, if exposed, they are more prone to collecting dirt. Lower leg wounds are also more likely to grow proud flesh and a bandage will inhibit proud flesh as well as keep the wound clean and reduce inflammation.

As a rule, once lower leg wounds are cleaned, they are treated with the appropriate salve and wrapped with sterile gauze and a tensor bandage, but not so tight as to prevent adequate circulation. If you cannot clip or tie the bandage to secure it, then use electrical tape or ladies' hose as an outer tie. Do not use duct tape as it is rigid and may apply too much pressure. Lower leg wounds should have the bandage removed and fresh dressing and bandages reapplied daily.

So, let's review the steps to properly treating a wound: stop the bleeding, clean the wound, treat with the appropriate topical, and bandage as necessary.

Practically speaking, horses that spend time on the trail will inevitably have little "owees" where they clip a sharp stone or are jabbed with a stick; an exposed smaller wound that is kept clean will generally heal well with no topical. For small wounds and rubs where the skin is not broken, no treatment is necessary.

Smaller upper body wounds that are bleeding can be flushed (with salt water if possible) or wiped with a clean damp cloth, and then covered with an appropriate salve or spray. Smaller lower body wounds need to be assessed; when in doubt, apply a salve and bandages.

A little knowledge of equine first aid can go a long way toward helping your horse in the event of an injury. I would encourage those who are interested in learning more to visit such websites as www.stepaheadfarm.com. In the meantime, I hope this has been some help!

Stay tuned for next month's issue of ***Canadian Horse Journal*** in which I will discuss lameness and rubs on the trail.

The publisher thanks Dr. David Reed for his assistance with this article.

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Topical Treatments

Understanding topical ointments and sprays and lotions is a science unto itself. One of the reasons that home remedies are still popular with horse owners is that many of them, such as pine tar, which is an antiseptic, healing agent, and bug repellent, really do work and they are often cost effective. I think that one of the main complaints against them by veterinarians is

that some of them can be harsh. The bottom line is that ranchers, farmers, and outfitters have always needed treatments that are effective and relatively cheap.

Figuring out what ingredients and which brands to purchase, and when and how to use them, is a head-scratching blister of a problem. What I do know is that I want my salve to stick well, heal the wound as quickly as possible, and repel flies. Personally – and this is just my old fashioned opinion from years of treating horse wounds – I do not really care if my topical treatments are organic or have the latest wonder ingredient. I just need them to work.

When selecting a topical product, you want to choose one that has antiseptic and antibacterial properties, as bacteria inhibit healing. Many topicals have agents to reduce the formation of proud flesh (tissue granulation), but this is a catch-22 as these agents typically reduce circulation which is critical for the healing of wounds.

Ointments are particularly excellent for helping to keep contaminants out of the wound, and they can help trap in blood which aids in healing.
Some vet recommended topical agents include Eclipse, Lacerum, silver sulfadiazine (often with aloe vera), Vetmycin, and Quick-Derm, to name a few. Many come in spray form, for upper body wounds, or salves.

Furacin (nitrofurazone) based topical treatments kill a wide spectrum of bacteria, but are considered by some to slow down the healing process.

Pure iodine does kill bacteria and viruses very effectively and is often used for sole punctures because it is aggressive, although harsh, but should never be used on a body wound.

As an antibacterial spray, some vets claim it is more effective to spray a wound with 5 ml of penicillin than it is to give an intra-muscular injection of 25 ml.

If you are overwhelmed by the options available, then consult with your vet.

Always remember to wear gloves when applying any topical solution.

Part 2 First Aid for Trail & Home
TRAIL TIPS

First Aid for Trail & Home, Part II
By Stan Walchuk, Jr.

This article is the second in a two part series about equine first aid for the trail and home. Last month we focused on vital signs, first response, care of wounds, and home remedies. In this article we'll be looking at what to do if your horse comes up lame, sustains a head injury, suffers rope burns or saddle rubs, or comes down with the flu while you're out on the trail.

In the event of a serious injury or illness, you should always seek veterinary attention if a vet is available. However, when you're out on the trail, it is important to have a thorough understanding of how to treat common injuries or illnesses until they can be seen to by a vet.

Lameness
If your horse begins to limp when you are riding along a trail, the cause of the limp is a mild, temporary bruise or sprain, similar to stubbing your toe or slightly twisting your ankle. Within a couple of minutes or a few hundred meters, the limp should wear off. However, if the limp is pronounced or does not disappear within several minutes, you need to get off and examine the foot and leg for a stone lodged under the shoe or in the sole, a wound, a puncture, a sprain, or another injury.

A loose or tossed shoe can also produce lameness-like symptoms. You may be able to re-tighten the nails on a loose shoe with simple tools; if not, walk rather than ride the horse back to where it can be re-shod. On longer journeys with horses that have a good solid hoof wall, we will pull the remaining shoe, trim the feet but leave enough hoof wall for the trail, and continue to ride barefoot, always conscious of the condition of the bare feet.

Because we ride through all kinds of rugged terrain with stone covered, brush choked trails, it is not uncommon to find a foot or leg with a scrape, bruise, or small cut. I always feel better if I do find a minor injury as it eliminates the possibility of a serious sprain or other damage like a pulled tendon, navicular, laminitis, etc. There is no point in treating a small wound before getting to camp or back to your vehicle, as the topical will simply wear off or wash off.

Photo: Stan Walchuk, Jr.
Carefully examine the hoof and leg for swelling, heat, cuts, scrapes, and punctures

If you cannot determine the cause of the limp and it is pronounced, you need to perform a closer examination and reduce the movement of, and weight borne by, the horse. You can usually detect a sprain by the presence of heat and swelling, the horse's sensitivity to pressure, and the stance of the horse. Touching the coronet band and ankle area of both the healthy foot and the injured foot will help you to detect heat or swelling in the injured area. If you firmly squeeze the ankle, pastern, or coronet band in the area of injury, the horse will often react by pulling its foot away or lifting its head. Don't be alarmed if your trail horse stands at rest with the back leg slightly lifted; this is a normal resting position. However, it is not normal for a horse to stand with a front leg lifted, or a toe pointed; this is an indication of an injury.

If there is no obvious wound or indication of a sprain, then take a good look at the sole of the hoof for a puncture or badly bruised sole. Clean the hoof well before examining it, as punctures small in diameter can be hard to see but are very serious due to the possibility of the horse contracting tetanus. If you do find a puncture, it needs to be cleaned, disinfected as deeply as possible, packed and wrapped, and the horse must be walked out to where it can be examined by a vet. On longer trips we often carry penicillin and always use it for horses with puncture wounds. If there is no puncture or visible damage, you can press on specific areas of the sole very firmly with your thumb or a blunt thumb-sized object to check for tender areas that might indicate a bruised sole.

Photo: Stan Walchuk, Jr.
*If you suspect a shoulder injury, stretch the hoof and leg forward and watch for the horse's reaction to determine if there is an injury. The horse should **never** be tied whole you are performing this test*

If no lower leg injuries can be found, then I get really worried as shoulder injuries from extended tendons do not have a good prognosis. Thirty years and a hundred horses in our trail string later, I still think about 'Red,' a big, bay Morgan/Percheron cross who was completely reliable and infallible, or so I thought, until he unexpectedly came up with a limp from a shoulder injury. Even after a year of rest he favoured that shoulder after an easy ride, and another two years didn't change anything. Very sadly, he could no longer be ridden. You can check for a shoulder injury by stretching the foot and leg forward and upward. If an injury is present in the shoulder, the horse will react by lifting its head up and back. The horse should never be tied when you do this.

There are other reasons a horse may come up lame on the trail, such as founder and laminitis, but in the case of any lameness you need to restrict movement and reduce the weight carried by the horse. If we are on a long journey and a horse comes up with a pronounced lameness, we make plans around the injury, meaning we make camp in the closest possible site. It doesn't have to be a great campsite, just one that will allow the horse to have a few days off.

If lameness strikes on the trail far from your home or trailer, and you suspect an ankle sprain (probably the most common cause of a limp on the trail), stand the injured leg in water, the colder the better. The cool water will help minimize heat and swelling.

Your next move should be to immobilize the leg with a tensor bandage. At times I have split kindling and used a wooden splint along the sides of the bandage to further reduce movement. It is very important that the bandage not be wrapped too tightly, as reduced circulation can cause further damage.

Once you have cooled the leg and immobilized it with a bandage, then, if home or the trailer is within reasonable walking distance, walk rather than ride out to reduce the amount of weight on the injured leg.

The time to really worry about lameness is when the limp is pronounced and there are no external signs of injury. Sometimes a sprain does not swell markedly and diagnosis is difficult. In any event, a vet needs to be called as soon as you get home, as there are a host of possible causes for lameness including laminitis, tendon issues, navicular, shin splints, ringbone, and other serious maladies.

It bears repeating that if trail riding is your pleasure, your goal, or your living, you need to get a good trail horse that has good bone, with solid, thick-walled hooves, and legs that have not been bred out from under him because he was bred for other purposes. You will be absolutely amazed at how your foot and leg issues evaporate with a good foot and leg.

Head Injuries

Accidents can happen on the trail, and blows to the head are not uncommon with horses as they kick about through the course of their lives, but a horse's skull structure is very dense and protective, and deaths from blows are uncommon. Treat a wound to the head and neck area as you would any wound. However, looking at a head wound may not tell the extent of internal injury. Brain damage can be assessed by observing the horse's behaviour. Stumbling, poor balance, shying at sudden movement such as hands being moved, and bumping into things can all be indicative of brain damage.

Horses do get concussions, and can lose consciousness and be out cold for many minutes, with no apparent ill effects. Nonetheless, if a concussion or brain damage is suspected, a vet should be called immediately and they may prescribe an anti-inflammatory. A horse that is likely to recover from what appears to be brain damage will show dramatic recovery within 24 hours.

Rope Burns, Rubs, and Scalds

Trail riders who pack horses will likely face rope burns, rubs, and scalds more often than other riders simply because the horses are used over more challenging terrain and carry loads wrapped with ropes that may loosen and entangle. These loads are dead weight that rock and sway, and are far more likely than a rider to cause rubs, scalds, and blisters. Picket lines and hobbles may also cause rubs. Always use a soft cotton or nylon rope that is forgiving by nature and, when hobble training a horse, use a hobble that is wider than normal (18 to 20 inches).

Generally, rubs are not serious and are often not treated unless the skin is broken. However, if the horse has significant cinch rubs or hobble burn or a blister from a load, then you are faced with the possibility of being forced to retire the horse until it recovers, which is not a desirable option when you are two days out on a wilderness ride.

Rope burn and hobble rubs often occur in the pastern and fetlock or lower leg area and should always be treated with a good salve that sticks well, heals well, repels insects, and keeps the rubbed area supple. Repelling insects and keeping dirt out of the rub is key. We rarely bandage lower leg rubs on the trail because the wrappings just do not last on wilderness rides, and there is not much advantage to wrapping a rub unless it is a very aggressive rub with excessive bleeding and broken skin.

Saddle rubs in the wither area require careful attention. Increasing swelling in the wither area may indicate the presence of an infection or fistula, which can cause considerable damage to the bone structure of the vertebrae and even kill the horse.

Keep loads off of withers with blisters, rubs, or swelling until the swelling has gone down, and figure out what caused the problem in the first place. In other words, do not place an ill-fitting saddle back on that horse.

If we discover a rub when we remove a saddle, we usually pour cold water over the area, or apply cold packs to reduce the heat associated with bruising. Then we apply an antiseptic salve. If swelling continues to the point of infection we administer penicillin immediately, lance the lower edge of the infected area, allow it to drain, and get penicillin and Betadine® right into the infection. This is usually a job for a vet, but if you are on the trail and several days from being able to access a vet, not treating the horse is not an option. The point here is do not take a saddle sore or rub on the withers lightly.

The Flu

Influenza is as common in horses as in humans, and symptoms of equine influenza are similar to those of the human flu, usually including a fever and clear, leaky discharge from the nose. After several days the discharge may turn cloudy and a cough may develop. The horse will generally experience depression, loss of appetite, and may drink less.

Treatment for horses with the flu is much the same as for humans, excluding Gramma's chicken noodle soup. This treatment generally consists of allowing the flu to run its course (which usually takes about one to two weeks). Bute can be effective in reducing the aches and pains associated with the flu.

If your horse comes down with the flu on the trail, it is important to take the horse to a sheltered area and allow it to rest. Even on remote trips we give a horse immediate time off if he has a leaky nose, cough, and depressed demeanour.

Here's hoping you and your horse never need to know what you just learned! Enjoy the spring season and scratch those itchy feet with your stirrups!

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First Aid Kit for the Trail

We only carry one first aid kit on the trail, with all of the supplies needed to treat horses and humans. Here's what we travel with during our overnight trips:

Photo: Stan Walchuk, Jr.

1. **Bandage wraps** are used to secure gauze, protect wounds, and provide support. Stretchy and self-sticking wraps, like CoFlex, Powerflex and Vetrap are best, but any off-the-shelf wrap will do.
2. **Sterile gauze** in roll and section form in various sizes protects wounds and can be used to create pressure points.
3. **Tape** has a host of uses including securing bandages. I suggest packing a couple rolls of electrical tape. Duct tape does not stretch and can seriously inhibit circulation if you use it as a wound wrap.
4. **Scissors** are handy for cutting gauze and tape, but many trail riders who have a sharp knife will pass on the scissors.
5. **Hemostats** are great for cleaning debris from wounds, but again, many trail riders travel with a Leatherman with pliers and would pass on a hemostat.
6. **Disinfectants** such as Betadine® or Hibitane® can be used to clean wounds and punctures.
7. A good **topical salve or spray** will repel contaminants and bugs, and initiate healing. We do not use a topical if it doesn't repel bugs and we expect it to stick to the wound or rub for at least a day.
8. Wearing **disposable gloves** is a good idea when cleaning wounds and applying salves, not only to protect the horse from contaminants, but to protect you from harmful bacteria.

9. A **thermometer** can be used to monitor a horse's temperature, but on the trail we often go by touch and pulse rates to determine a horse's stress level.
10. On longer trips we take **penicillin and sterile needles**, and know how to administer it. We choose a penicillin that also has an anti-inflammatory and, if possible, an antihistamine.
11. Good **bug dope** is critical on our trips as it keeps bugs that can spread disease off our horses and out of their wounds. Bugs can also agitate horses and provoke them into doing something foolish. Our bug dope has to stick well; we have no use for bug dope that is ineffective a few hours after being applied, regardless of what the label says.
12. We used to carry **Blood Stop Powder** as it does help stop the flow of blood from wounds, but some feel that the granulation causes proud flesh.

You do not need to go overboard on quantity as it is very rare to have more than one major first aid event on a trip. If you do not have all of the items recommended, then use what you have – use water or salt water for flushing and cleaning wounds, apply personal ointment like Polysporin® as a topical, and cut strips of clothing for bandage wraps and gauze, etc.