

Wounds and Trauma

Red Alerts – Consider getting horse out of backcountry and get help ASAP

- The horse is in shock - Horse is cold, has pale membranes, appears very tired, breathing is irregular. Blanket the horse and keep as warm as possible. Clamp any bleeder with hemostats.
- Bleeding is uncontrollable even with direct pressure for over 20 minutes and/or an applied tourniquet and/or clamping with hemostats.
- The horse is very lame.
- The horse is thrashing about because of the injury.
- There is a clear yellow fluid coming from the joint wound.
- The wound is on a joint or BELOW the hock or knee. These injuries need extra attention due to the possibility of infection going into a joint, and the lack of blood supply below the knee or hock, resulting in slow healing and potential infection.

Types of Wounds

- **Punctures** – While only a small hole may be visible, these wounds often have massive contamination and possible tissue damage under the skin. Puncture wounds almost always become infected and need special attention, especially if on the lower leg or close to joints. Infection control will always be needed (refer to Equine Medications instruction sheet).
- **Burns** – These are usually caused by ropes or from tack. The damaged tissue dies and sloughs off or is removed via surgery. The wound is then treated as an open laceration.
- **Lacerations** – These come in all shapes and forms. Small cuts often heal with minimal treatment, but crushing wounds, large open wounds, and those of the lower limbs need help to minimize infection and scar tissue.
- **Abrasions** – a surface injury that doesn't penetrate all skin layers. 'Road Rash' and rope burns are types of abrasions. Rope wrapped around the leg, usually the pastern, can cause pressure necrosis resulting in ongoing tissue death over weeks.

General First Aid

IF bleeding is significant, control the bleeding BEFORE cleaning the wound.

1. Assess the Patient
2. Inspect the Wound
3. Control Significant Bleeding and Start Wound Cleaning
4. Clean the Wound
5. Medicate the Wound
6. Bandage the Wound
7. Prevent Infection
8. Control Inflammation and Pain
9. Return to the Trail Head
10. Care for the Bandage

Step 1 - Assess the Patient

1. Wait a few minutes for the horse to settle down after an injury before starting major treatment.
2. Check overall condition of the patient.
3. Check vital signs.
 - a. An animal experiencing severe blood loss or shock will have the following signs:
 - i. heart rate > 60 BPM
 - ii. thready, weak pulse
 - iii. CRT >= 4 seconds
 - iv. Very pale membranes
 - v. Cool Extremities

vi. Shivering

- b. These patients need additional treatment beyond wound care. Take what steps you can and seek Veterinary Assistance ASAP.

Step 2 – Inspect the Wound

1. Cuts not extending all the way through the skin are rarely severe. If there is no lameness, cleaning the wound may be all that is needed.
2. Wounds that go completely through the skin layer but have not damaged tissue in other layers may heal without complications if they are ABOVE the knee or hock.
3. Wounds BELOW the hock or knee, damaging tissues below the skin layer, or near a joint or tendon need veterinary assistance as soon as possible.

Step 3 - Control Significant Bleeding and Start Cleaning the Wound

There are 3 methods for controlling bleeding:

1. Apply DIRECT PRESSURE to the wound until bleeding stops.
 - a. If bleeding soaks through the bandage, **DO NOT** remove bandage. Apply another, tighter bandage over the one that is already there.
 - b. Most wounds stop bleeding in 15-20 minutes.
2. Clamp a bleeding vessel or artery with hemostats.
 - a. Wait 10-15 minutes for a clot to form
3. Apply a Tourniquet to a limb
 - a. A tourniquet should be applied only if absolutely necessary.
 - b. Apply between wound and heart.
 - c. Wrap tightly and tape in place.
 - d. DO NOT tie or twist.
 - e. If not effective, place a cloth roll under the tourniquet in line with the wound.
 - f. Loosen every 10 minutes just enough to let the blood flow, then retighten.
 - g. Can remain in place for 30 minutes.
 - h. Seek Veterinary assistance as soon as possible

Upper body wounds

1. Cover wound with large sterile compress
2. Tie in place using brown gauze or vet wrap
3. Apply additional pressure with towels or coats
4. Tie these in place using brown gauze or vet wrap
5. If hemorrhaging begins again, **DO NOT** remove bandage. Apply another, tighter bandage over the one that is already there.
6. Begin cleaning the wound

Leg and Foot Wounds

1. Place a sterile telfa pad over the wound.
2. Apply DIRECT PRESSURE to wound until bleeding stops.
3. If hemorrhaging begins again, **DO NOT** remove bandage. Apply another, tighter bandage over the one that is already there.
4. Begin cleaning the wound
5. A tourniquet should be applied only if absolutely necessary.

Step 4 –Clean the Wound**Wound Cleaning is the most important step**

1. Use the surgical E-Z Scrub to thoroughly clean the wound.
2. Pick any debris out of the wound.

3. Shave the hair around the wound, if necessary.
4. Use the surgical E-Z Scrub to thoroughly clean the wound again.
5. Use a 30cc syringe filled with clean water to flush the wound.
6. Multiple flushings are very important to remove bacteria and dirt.

Step 5 - Medicate the Wound

1. With sterile gauze, blot the area around the wound dry
2. Apply PVP wound ointment.
3. If suturing is needed, do not apply wound ointment. It is best if suturing can be done within the first 12 hours.

Step 6 – Bandage the Leg Wound

Layer 1: maintains a sterile wound environment.

1. Place a sterile 4"x4" telfa pad over the wound
2. Secure the pad with 6" brown gauze dressing wrapping the leg from inside out, front to back. Wrap counter-clockwise for left legs; wrap clockwise for right legs.
3. With a gentle motion spiral the wrap down the leg from the injury, then upward past the injury and finally down the leg again.
4. Keep pressure uniform and overlap each successive turn so that it covers half or the previous turn.

Layer 2: absorbs drainage and to prevents excessive compression while supporting the limb.

1. Apply the sheet cotton roll wrapping the leg from inside out, front to back, making sure to extend above and below the wound.
2. IF NEEDED to add further stability for the injury, wood slats, branches, or other splint material can be taped to the outside of the padded wrap.
3. Secure the padding with 6" brown gauze wrapping the leg from inside out, front to back.
4. Keep pressure uniform and overlap each successive turn so that it covers half of the previous turn.

Layer 3: secures layers 1&2 and to prevents environmental contamination.

1. Using Vetwrap, start about $\frac{3}{4}$ inch above the bottom of the padding, wrapping the leg from inside out, front to back up the limb firmly overlapping $\frac{1}{2}$ the material over the previous turn.
2. Work to top of padding, leaving $\frac{3}{4}$ inch uncovered.

Layer 4: FOOT BANDAGE ONLY

- Secure these the first 3 layers with a duct tape 'boot' or use an Easyboot.

Step 7 – Prevent Infection with Antibiotics

- Antibiotics are needed for all punctures and if the wound is large, contaminated, deep, already infected, or near a joint or tendon sheath.
- Administer Pen G (refer to [Equine Medications](#) instruction sheet)

Step 8 – Control Inflammation and Pain

- Administer 2 grams bute paste (refer to [Equine Medications](#) instruction sheet)

Step 9 – Return to the Trail Head

1. Keep horse quiet.
2. Do not attempt to return to the trail head until hemorrhaging has completely stopped. This may take hours
3. When horse is capable of moving, go slow and make frequent stops to rest
4. If hemorrhaging begins again, stop. **Do not** remove bandage, apply another, tighter bandage over the one that is already there.

5. Offer small amounts of water frequently; but do not let the horse “tank up” on water
6. Offer very small amounts of feed.

Step 10 – Care for the Bandage

- Change the wrap daily for the first week, then every 2 to 3 days thereafter, cleaning the wound thoroughly and applying medication before applying a new bandage.
- With small abrasions the bandage should be removed after 2-3 days to allow a scab to form. If infection develops under the scab, remove the scab, thoroughly clean the area and reapply PVP ointment.
- **Watch bandages very closely for any slippage.** Extreme damage can be caused if bandages slip, bunch up, and cut off circulation.
- Change the wrap if it slips, gets wet, smells, is swollen above or below the wrap, or if horse seems painful.

Tack Sores

Poor fitting tack and/or soft skinned horses can result in rub sores. These sores can be mere red spots, or they can extend through the skin and cause pain.

Check the horse over at the end of the day for red areas or sores.

Signs

- During the ride, horses that are sore may exhibit discomfort, an altered gait, or even lay down.

First Aid

1. Shave the hair around the area.
2. Apply PVP ointment.
3. Cut a hole slightly larger than the wound in a 2” thick piece of foam.
4. Place the foam pad under the offending tack to protect the wound.

Punctures to the Sole of the Hoof

- Punctures are very dangerous because they are often made by a small object like a nail. The object carries manure and soil into the sole where severe infections can incubate.
- **Deep penetrating objects can also damage or infect tissues below the sole such as the flexor tendons or the coffin bone. If these structures are involved, extensive measures are needed if the horse is to be salvaged.**

First Aid

1. Cut the object level with the sole.
 - a. If the object must be removed, photo-document the foot and the object’s location prior to removal, during removal, and after removal. It is important to note the depth and angle of penetration.
 - b. Save the object for your veterinarian.
2. Follow the above steps for wound cleaning and bandaging
3. Prevent infection, refer to Equine Medications instruction sheet.
4. Control inflammation and pain as needed, refer to Equine Medications instruction sheet.
5. **Seek Veterinary assistance as soon as possible**

Blunt Trauma

First Aid

1. Keep the horse quiet.
2. Apply ice or cold water to the affected area to limit swelling.
3. Control inflammation and pain as needed, refer to Equine Medications instruction sheet.