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First Aid / Emergency Care - Jun 16th, 02

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Caring for a hoof or lower leg injury can be very labor intensive. Even under the most ideal management conditions, the horse's lower extremities are regularly exposed to dirt, debris, moisture and manure. Without a properly applied bandage, it could be difficult-if not impossible-to heal many types of foot and lower leg injuries.

How Bandaging Helps

Hoof bandages may be used to:

- Protect wounds, cracks, abscesses or surgical sites from contamination or trauma
- Apply medication to the solar or peripheral margins of the hoof or foot
- Prevent or reduce swelling and edema
- Immobilize injured tissues and/or reduce motion in the lower limb (leg)
- Aid in the healing of wounds
- Absorb fluids (exudates)
- Provide immobilization and support for structures such as tendons, ligaments, and even bone as in cases of laminitis.

Apply With Care

It is especially important to know the proper way to apply a hoof and/or lower leg bandage. The horse's feet and legs depend on a steady and abundant supply of blood. Tendons, ligaments, joints and nerves are also vulnerable to damage from an inappropriately applied bandage, as there is minimal overlying tissue to protect them.

The bandage must be applied smoothly, evenly and with the right amount of tension so as not to interfere with circulation or put undue pressure on vital structures.

If you have never bandaged a horse's foot or lower limb before, ask your veterinarian or an experienced equine professional to demonstrate the proper techniques. Practice under his or her supervision before doing it on your own. Because a bandage covering the lower leg and especially the hoof will require frequent changing, you will get plenty of practice.

Bandaging Materials

Because of the bandage's location and the stresses it will have to withstand, choose bandaging materials that:

- Readily conform to the shape of the hoof and lower leg
- Permit use of the foot/leg without slipping or loosening
- Adhere well to the hoof wall or leg
- Are extremely durable
- Are water resistant
- Are sterile (if in contact with a wound or surgical site)

Supply List:

- Sterile, non-stick gauze pads or wound dressing
- Sheet cotton, roll cotton, combine cotton, or disposable diapers.
- Stretch bandaging tape such as 3M Vetrap Bandaging Tape at least 2-3 inches wide
- Adhesive bandaging tape such as Elastikon Elastic Adhesive Tape
- Duct tape

Bandaging Guidelines

The location and type of injury will determine how high the bandage should extend. A sole abscess might require that just the bottom and lower half of the hoof be protected. A heel bulb, coronary band, or lower leg injury might require that the bandage extend to cover the pastern region.

1. Thoroughly cleanse the injury site as prescribed by your veterinarian.
2. Cover the wound or surgical site with sterile, non-stick gauze or dressing.
3. Utilize padding as needed. Apply to sole of foot in case of abscess or laminitis, or surround the hoof wall, heel bulb and ankle for other types of injuries. **A disposable diaper also works particularly well for this region and shapes or conforms to the foot's normal architecture.** Padding should lie flat and wrinkle-free where it contacts the skin.
4. Secure the padding by encircling the hoof wall and lower leg with stretch or adhesive bandaging tape. It is important when incorporating this material into your lower limb bandage, to not excessively place too much tension on this material as it can reduce the blood flow dramatically to the foot region.
5. Cover the sole using a figure-8 bandaging pattern, criss-crossing the fabric over the bottom of the foot and extending it up around the sides of the hoof and pastern until the padding is completely covered.
6. Work top to bottom or bottom to top, conforming the bandage to the hourglass shape of the hoof and lower leg. Exert just enough pull to stretch the fabric to half its maximum extended length, being especially careful not to constrict the area around the coronary band.
7. Overlap each preceding layer by 50 percent using smooth, uniform tension to compress the padding without forming lumps or ridges beneath the bandage.
8. Secure the bandaging tape with adhesive to keep it in place.
9. Create a strong, durable surface by applying duct tape to the bottom and sides of the foot. Use strips that extend across the bottom and up the sides of the hoof walls.
10. Overlap the edges of the duct tape, then add a second, cross-hatched layer to create a watertight seal.
11. Secure the edges along the hoof wall by encircling the foot with additional duct tape or elastikon.

12. Seal the top opening of the bandage with an adhesive tape such as Elastikon Tape to prevent dirt or debris from getting in.

Special Consideration

Because the foot and lower leg are the site of so many vital structures, any injury to the hoof, heel, coronary band or pastern should be evaluated by a veterinarian.

Other considerations include:

- A horse with a condition requiring a hoof bandage should be confined to a stall or small run unless otherwise directed by your veterinarian.
- Hoof and lower leg injuries may bleed excessively because the area is highly vascular. Pressure may be applied directly to the wound to control bleeding. However, a pressure bandage should not be left in place for more than an hour or two.
- When bandaging, use enough pressure to keep the bandage securely in place, but never wrap so tightly that you cannot easily slip a finger between the top of the bandage and the leg.
- Check the hoof bandage several times a day to make sure it is not cutting off circulation, constricting the coronary band or leg, creating pressure sores, or causing discomfort.
- Monitor and evaluate the horse carefully. If swelling develops above the bandage, lameness increases, or the horse begins to chew at the bandage, check the bandage and contact your veterinarian.
- If the horse has an elevated temperature, becomes depressed or irritable, or loses its appetite, consult your veterinarian.
- For hoof injuries that require continuous soaking or medication, a foot bandage can be lined with a heavy plastic bag, inner tubing, or latex rubber folded around the hoof to contain fluids. Ask your veterinarian for special instructions.
- A **properly** fitted hoof boot may be used over the bandage to aid in extending wear and water resistance of the bandage.
- Change the hoof bandage at the intervals specified by your veterinarian or immediately if it becomes wet or soiled.

Casting

In some cases, your veterinarian may recommend that the foot be placed in a foot cast rather than a lower limb or foot bandage. A cast, used short term, can speed healing by immobilizing and protecting delicate tissues, often reducing recovery times from months to weeks. It can also drastically reduce owner concerns about inappropriate or serial bandage changes in the patient, as foot casts are typically managed for 10-14 days.

If you have any further questions or concerns about hoof or lower leg bandaging techniques, contact your local veterinarian.

This information was produced through a joint venture between 3M Animal Care Products and the American Association of Equine Practitioners.

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