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FOAL MANAGEMENT: Wound Care

Cuts, lacerations and abrasions on a horse are perhaps the most common emergency an owner experiences. Understanding how to deal with wounds is therefore an important part of horse management. Understanding the process of wound healing and proper and early wound care will help avoid loss of function, unnecessarily long healing times and/or formation of excessive granulation tissue (proud flesh).

If your horse becomes wounded it is important to:

1. Keep yourself safe and calm and get assistance,
2. Keep the horse safe, calm and confined,
3. Perform an objective assessment of the severity of the wound,
4. Determine wound severity and whether to call a veterinarian,
5. Perform basic wound care procedures.

How to perform a basic clinical assessment can be found in the Foals Best Start Fact Sheet "Managing Foal Colic". Such an assessment is critical in determining the level of emergency, extent of injury, whether internal organs are affected, and degree of blood loss. Rapid pulse and breathing, or poor capillary refill time, or poor mucous membrane colour, or dehydration are all signs that mean a veterinarian needs to be called.

A veterinarian should also be called if the wound(s) exhibit any of the following:

- There is bleeding from the nose,
- If there is excessive bleeding,
- It involves the eye,
- It is badly contaminated,
- It is severe and on the lower limb (below knee or hock),
- Completely encompasses a leg,
- It is over a joint,
- If the skin is completely penetrated,
- If it is a deep puncture wound,
- If any structures, such as tendons or bones or viscera, are visible,
- It is not healing,
- There is excessive swelling.

Proper wound care aims to facilitate the natural healing process and to prevent further injury, infection or insult. This means; haemostasis (stopping bleeding), cleaning, protection from contamination, immobilisation, and medication.

Haemostasis is best achieved by applying constant pressure with thick gauze or a bandage or towel (don't use a tourniquet or a wiping action). This could take some time but in general clotting occurs within five minutes and will be stable unless disturbed.

Cleaning is often best achieved using gentle hosing (a garden hose is fine but not on full pressure), clipping of hair, and removal of foreign objects. Removal of nails from hooves may best be left to your veterinarian.

Protection from contamination can mean; suturing the wound closed, or application of topical antibiotics and protective bandages, or leaving the wound open and daily cleaning and application of topical antibiotics. Which method(s) used depends on the type of wound and stage of healing. In general, keeping wounds moist will assist in closure, healing, and in limiting the production of excess granulation tissue. If bandages are applied four layers are recommended consisting of, for example: a non-stick pad, elastic wrap, rolled cotton, adhesive wrap. Bandages should be changed every two to three days.

Keeping a wounded horse confined will help it to avoid further injury. Lower limb wounds can often be best immobilised by extending any bandaging to the joint above and below the wound and through the use of temporary casts (these can be made of PVC piping or wood). Healed wounds do not start to gain strength until at least 10 days and may take years to regain the maximum 80% of the original undamaged tissue strength.

Medication usually means a tetanus booster, tetanus antitoxin if vaccinations are not up to date, injected antibiotics and pain killers. The use of anti-inflammatory drugs, such as phenylbutazone, is generally contraindicated unless there is excessive inflammation, as these can hinder the healing process.

Having a well-stocked first-aid kit is essential and should include the following items:

- Thermometer
- Gloves
- Marker pen
- Pliers
- Gauze
- Elastic wrap
- Adhesive wrap
- Cotton roll
- Antiseptic solution (e.g. Betadine)
- Antibiotic spray or cream
- Scissors
- Torch (flashlight)
- 15 cm (6 inch) diameter PVC pipe, cut in half lengthways, and in lengths of 40-60 cm (1.5 to 2 feet)

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The process of wound healing is common to most animals and involves three stages that can last months to years.

Stage	Time Frame	Biological Processes
Inflammatory	2-5 days	• Haemostasis (clotting) • Inflammation (cleaning up by blood flow and cell infiltration)
Proliferative	2 days to 3 weeks	• Angiogenesis (formation of new blood vessels) • Granulation (fibroblast growth and extracellular matrix formation) • Contraction (myofibroblast action) • Epithelialisation (skin surface cells multiply and move)
Remodelling	3 weeks to 2 years	• Collagen (made by fibroblasts) is synthesised and degraded and re-synthesised to strengthen the wound