Emergency care for your horse

Normal parameters for a healthy horse.

There will be variations in each individual horse.
Normal ranges for adult horses are:

- Heart rate: 30-40 beats per minute
- Respiratory rate: 12-20 beats per minute
- Temperature: 37.5°C - 38.5°C. If the temperature exceeds 39°C your horse has a fever and you should contact your veterinarian.
- Capillary refill time (time it takes for colour to return to gum tissue adjacent to teeth after pressing and releasing with your finger): 2 seconds or less.

What else should I look for?

- Colour of the mucous membranes of gums, conjunctiva (inner eye tissue) and inner lips of vulva should be salmon pink. Other colours, yellow, intense red, grey, white or blood blisters suggest significant disease and you should contact your veterinarian immediately.
- Skin pliability: pinch a flap of skin on the point of the shoulder and release. It should immediately snap back into place. Failure to do so is evidence of dehydration.
- Colour, consistency and volume of faeces and urine should be typical of the individual's usual excretions. Straining or failure to excrete either manure or urine should be noted and if persists contact your veterinarian
- Signs of distress, anxiety or discomfort.
- Lethargy, depression or a horse that is not eating.
- Presence or absence of gut sounds.
- Evidence of lameness such as head bobbing, reluctance to move, odd stance, pain, unwillingness to rise.
- Bleeding, swelling, evidence of pain.
- Seizures, paralysis, or tying-up (a form of muscle cramps).

Emergency first aid kits

First aid kits can be simple or elaborate. The following are items often found in good first aid kits:

- Cotton wool roll*
- Gauze pads, assorted sizes*
- Adhesive Tape
- Leg Wraps
- Sharp Scissors
- Rectal thermometer
- Surgical scrub such as Betadine® and antiseptic solution

- Latex gloves

In some circumstances, in isolated areas or under certain circumstances, normal household items can be substituted for the above. |
In all circumstances, it is important to make sure there is access to water, some form of nutrition (hay, pellets, grass), that wounds are clean and that if possible there is some dry area with shelter from the sun and heat available. Some household items that can be used in an emergency first aid kit:

- Sugar/Cordial/honey/molasses
- Bicarb soda
- Lite Salt
- Normal Salt
- Sanitary Pads/nappies
- Clean cotton bandages

Emergency wound care

The following should be used as a guideline:

1. Evaluate the location, depth and severity of the wound. Call your veterinarian anytime you feel your horse is in need of emergency care, for example:

- There appears to be excessive bleeding or leakage of fluid from the wound
- The entire skin thickness has been penetrated
- The wound occurs over or near a joint
- Any structures such as bones or tendons are visible
- A puncture has occurred
- The wound is severely contaminated with dirt, grass etc.
- The horse is severely lame or unable to rise.

2. Consult with your veterinarian before you attempt to clean the wound or remove debris or penetrating objects, as you may precipitate uncontrollable bleeding or do further damage to the wound. Large objects should be stabilised to avoid damaging movement if possible. Do not put anything on the wound except a compress or cold water.

3. Stop the bleeding by covering the wound with a sterile, absorbent pad (not cotton wool), applying firm steady even pressure to the wound.

4. Do not medicate or tranquilise the horse unless specifically directed by your veterinarian. If the horse has suffered severe blood loss or shock, the administration of certain drugs can be life-threatening.

5. If the eye is injured, do not attempt to treat. Put the horse in a dark stall if possible and await your veterinarian.

6. If a horse steps on a nail or other sharp object and it remains embedded in the hoof, first clean the hoof. Consult with your veterinarian before you remove the nail (This is very important). If advised, carefully remove the nail to prevent the horse from stepping on it and driving it deeper into the hoof cavity. Be sure to mark the point and depth of entry with a marker so the veterinarian can assess the extent of the damage. Apply antiseptic to the wound, and wrap to prevent additional contamination.

7. All horses being treated for lacerations or puncture wounds will require effective tetanus protection.

Other emergencies

There are far too many types of emergencies to adequately cover them all in this article. However, regardless of the situation, it is important to remember these points:

1. Keep the horse as calm as possible. Your own calm behaviour will help achieve this.
2. Move the horse to a safe area.
3. Get someone to help you and delegate responsibilities such as calling the vet, retrieving the first aid kit, holding the horse etc.
4. Notify your veterinarian. Be prepared to provide specific information about the horse's condition.
5. Listen closely and follow your veterinarian's instructions. Do not administer drugs especially antibiotics, tranquilisers or sedatives, unless specifically instructed to do so.
6. Keep yourself safe by wearing gloves and other personal protective equipment (overwear and appropriate footwear).

Do not be concerned about over-reacting or annoying your veterinarian. Your horse's health and well-being depend on it.

Equine wound care

Minor and major wounds are common occurrences in horses and the severity of a wound can be deceiving. Large wounds accompanied by profuse bleeding often appear worse than they are, particularly if they involve only superficial structures.

In contrast, small wounds occurring on or near a joint or tendon might not initially present a dramatic flow of blood but could prove to be more serious due to the potential for underlying structures to become injured. Common types of wounds include partial skin thickness abrasions, full skin thickness lacerations and puncture wounds through the skin that leave a very small surface wound, but with the possibility of damage to deeper structures.

Be prepared! Providing effective first aid to an injured horse means having easy access to a fully-stocked first aid kit.

Up-to-date vaccination records should also be readily accessible. Tetanus is a bacterium found in the environment which can infect your horse through open wounds and results in a potentially fatal neurological disease.

When to call the vet

Any of the following should alert horse owners to seek veterinary consultation:

- Profuse bleeding that is not stopped by simple compression as described below
- Puncture through the entire skin thickness, especially if near a joint or tendon
- Wound edges that gape apart or if there is a skin flap present
- If there appears to be contamination of the wound either with dirt or other debris
- The horse is very lame
- If structures deep to the skin such as muscle, bone or tendon can be seen
- Your horse's tetanus vaccination is not up to date

You should avoid giving your horse any painkillers or antibiotics before discussing with a veterinarian arrives as they can mask the severity of the injury. Also, avoid placing any topical treatments onto the wounds without consulting your veterinarian first.

Immediate first aid

- Don't panic! Be as calm as you can when catching your horse and try to calm them so they don't cause any further injury to themselves. If your horse is able to walk, take it to a dry, clean stall or a quiet area in the yard. If you feel your horse is too sore to walk, keep them where they are. A feed bucket is always a nice way to distract your horse from the pain of an injury and relax them.
- If possible find a helper to hold your horse before you assess the wound or apply first aid. Wounds are often painful and your horse might be quite anxious. The last thing you need is for them to accidentally hurt you whilst you are looking at their injury.

- If the wound is still bleeding, apply even and direct pressure to the area using a bandage as described below. If the bandage soaks with blood simply place fresh material on top. By doing this you avoid disturbing newly formed blood clots when the soaked material is peeled away.
- Once bleeding has been controlled, try to assess the location, depth and severity of the wound and call your veterinarian. Some large wounds that appear horrific initially can heal extremely well where as other seemingly minor wounds can result in severe career-ending infections if they are not dealt with quickly and appropriately. Don't forget to look at all other areas of the horse for other injuries, some potentially more serious wounds can easily be missed during your initial examination.
- Use of incorrect doses of antibiotics or pain relief are a poor substitute for good physical wound management (for example cleaning) and in a compromised horse can be detrimental to their health.

First aid for minor wounds

- Clean the wound with large volumes of clean water using swabs or cotton wool and antiseptic wound solutions diluted according to the directions on the pack
- Apply a bandage.
- If the wound is minor, leave the bandage in place and change every 2 - 3 days. However, monitor daily for infection and if there is unpleasant discharge or smell consult your veterinarian.

Bandaging

Every bandage should contain 3 layers:

1. Primary layer – this layer is placed directly onto the wound. It is non-stick so that when it is removed, the healing tissue below is not accidentally damaged. Melonin® or Allevyn® are two examples.

2. Secondary layer – this is the padding layer that provides even pressure over the wound. Products such as cotton wool or gamgee (gauze covered cotton roll) are good choices for this layer, if desperate a disposable nappy can suffice.

3. Tertiary layer – this is the top layer of the bandage that holds everything in place and provides compression. Products like Vetwrap® and Elastoplast® are used for this layer.

Some areas of the horse that are prone to wounds such as the hock are often quite tricky to bandage. If you are unsure how to place a bandage over a wound, don't hesitate to ask your veterinarian.

Your veterinarian and wound management

How a wound heals and the final functional and cosmetic outcome greatly depends on the initial management. Investing in appropriate veterinary care, can help minimise complications and delayed wound healing. Penetration into a joint or tendon sheath can produce a life-threatening injury and/or infection which needs advanced wound care and often extra diagnostics such as radiographs (X-rays) or ultrasonography. Veterinary treatment may include trimming skin flaps, removing dirt and foreign particles from the wound, cleaning the wound with saline and antiseptics and suturing the wound if appropriate and bandaging. Use of antibiotics and pain relief may also be needed.

How to deal with equine lameness

A lame horse is defined as having either an abnormal gait or being incapable of a normal gait. The most common causes of lameness in horses include infection (e.g. foot abscess), traumatic injuries, conditions acquired before birth (e.g., contracted tendons) or after birth (e.g., osteochondritis dissecans). Factors unrelated to the musculoskeletal system such as metabolic, circulatory, and nervous system abnormalities (e.g., wobbler syndrome) can also cause a horse to become lame.

Many causes of lameness can be diagnosed with a thorough history, palpation of the limbs, observation of the horse's gait and hoof tester examination. In some horses in addition to this local nerve blocks or joint blocks may be required. More lameness is seen in the forelimbs than the hindlimbs and almost 95% of forelimb lameness occur from the knee down. When the hind limb is involved, however, many more are seen in the upper part of the limb, especially in the hock or stifle.

A detailed discussion with a veterinarian may help work out the severity and more likely causes of lameness and what degree of veterinary help/diagnosis may be required.

Once the limb (or limbs) involved in the lameness is identified, you can palpate each lame limb to better determine which particular region is affected. Hoof testers are frequently used at this point to assess the presence of pain in the foot. The goal of this examination is to find evidence of heat, pain, and swelling to better pinpoint the exact cause of the lameness.

Manipulating the joints by flexing and extending the limbs and assessing which joints or structures are painful, and/or if a decrease in the range of motion exists is an important part of localising the lameness.

Lameness in the horse is often quantified by veterinarians using a lameness grading system. This subjective grading system is based on a five-point scale ranging from 0 to 5. Using this standardized grading system allows consistent description of lameness and allows progressive tracking of a lameness in the same horse over time.

The five grades are as follows:

- **Grade 0** is defined as no detectable lameness under any circumstances.
- **Grade 1** is defined as lameness that is difficult to observe and is inconsistently apparent regardless of the circumstances (e.g., in hand or under saddle, hard surface, incline, circling).
- **Grade 2** lameness is difficult to detect at a walk or trot in a straight line, but is consistently apparent under particular circumstances (e.g., under saddle, hard surface, incline).
- **Grade 3** lameness is consistently observed at a trot in all circumstances.
- **Grade 4** lameness is obvious with a marked head nod, hip hike, and/or shortened stride.

- **Grade 5** lameness is obvious with minimal weight bearing either during motion or at rest. The horse might be unable to move.

Please note some clinicians use a grading system of 10 stages.

Some common causes of lameness

- Superficial Cuts and Abrasions
  In wet conditions where horses are standing in water or mud for long periods, superficial cuts and abrasions can become infected and/or inflamed and this may cause lameness. Normal skin bacteria can grow rapidly and cause quite severe cellulitis/inflammation. In some cases, cleaning and drying these areas early in the disease process, can prevent development of more serious lameness. Antiseptics such as chlorhexidine (hibitane) or Povidone Iodine (Vetadine) can be used clean the affected areas. It is important to wash off the antiseptics with clean water and dry the area after 10-15 minutes (antiseptics are a poor substitute for good wound cleaning). Sometimes antibiotics and anti-inflammatories can be used to help treat superficial wounds / inflammation. It is important to note that many antibiotics are commonly used incorrectly to treat infections (an example would be penicillin at 20 mls once per day – this is not the correct dose despite common use-age like this) and it is really important to talk to a veterinarian about drugs and dosages prior to use.
- Deeper wounds or lacerations
  After flooding there are often logs, machinery, steel, tin that have washed into unusual areas and horses can badly injure themselves.
  If a laceration or cut is over a joint or tendon sheath, or appears to be superficial or minor *and* the horse is severely lame, then it may be something that antibiotics or anti-inflammatories are unable to treat. These cases should be discussed with a veterinarian. Emergency treatments can still be given, but more discussion about likely outcomes for the horse may be required.
- Foot abscess.
  These are relatively common when wet, muddy conditions leave feet soft and vulnerable to bruising and these can develop into quite severe lameness. In most cases, anti-inflammatories and a poultice will help manage these successfully. Home made poultices using honey, sugar, molasses, salt, vetadine, Epsom salts can be made up an applied. Contact a veterinarian to discuss possible options.
- Fractures / dislocations
  These are relatively rare but can occur and can be hard to diagnose. They are often associated with swelling although a foot abscess can also look very similar to a fracture.

Equine Skin Diseases.

Equine skin diseases are common after wet conditions. Some horses are more susceptible to others. In some cases, the causes are multifactorial (sun, inflammation, multiple bacteria). Often photos and a description of the problem can help a veterinarian identify the cause and appropriate treatment can be instituted.

Bacterial Skin Disease (Dermatophilus)

Rain Scald/Greasy Heel/Mud fever

Although this can be a complex disease, it is often associated with prolonged moist/wet conditions. A bacteria (*Dermatiphilus congolensis*) is the cause of the disease, but the disease can be complicated by other bacteria (*Staphylococcus spp.*), by exposure to sun, and the horse's own immune system. The disease can cause horses to be quite sick if not treated and can lead to quite painful lesions. However, in most cases, effective control can be implemented by removing scabs (gentle scrubbing) with vetadine followed by washing with clean water and drying. In some cases anti-inflammatories, and antibiotics (both topical and oral) can be required, but these are the minority of cases.

Fungal Skin Diseases

Pythiosis

Swamp Cancer

In Northern Australia, horses spending prolonged time standing in still water, can develop fungal infections (there are a couple of different fungal causes). These are slower to develop initially and usually start off in an area where there was an abrasion or area of broken skin. One established, they can develop very rapidly and can be intensely itchy. They will look a little bit like excessive granulation tissue (proud flesh). These can be very irritating and cause severe and disfiguring lesions (leading to euthanasia if not treated often). There are number of treatments but the most effective treatment is surgical debulking with the use of either sodium iodide or potassium iodide (depending on the fungal cause). A discussion wit a veterinarian may help you identify these lesions from other similar lesions.

Parasitic Skin Diseases

Habronema.

This is a horse stomach parasite that is spread by flies. After the eggs of habronema have hatched in horse faeces, the larvae are ingested by the maggots of various flies that lay their eggs in the faeces (such as the stable fly or the house fly). The nematode larvae develop within the maggot for about one week (depending upon ambient temperature). The infective larvae migrate to the mouthparts of the fly, where they are passed on to the horse when they feed around the horse's moist areas such as *wounds*, *nostrils*, *lips*, and *eyes*. If the larvae are deposited into open wounds, or broken skin they can cause intense granulomatous reactions, producing an *ulcerated* irritation called "summer sores". They may also invade the eye and

the eye membrane causing a persistent conjunctivitis. If the larvae find their way up through the nose they can migrate into the lungs and cause tiny abscesses around where they embed in the lung tissue.