

Basic First Aid considerations; Preparing for the worst ahead of time

	AVERAGES FOR AN ADULT HORSE	Tools needed	Normal values for your horse
Heart Rate	28-45 Beats per minute	Your hand OR stethoscope	
Respiratory Rate	10-18 Breaths per minute	Stethoscope or eyes	
Rectal Temperature	37.5-38.5° C (99.5-101.5° F)	Lubrication and thermometer	
Gums	Pink and moist to the touch	Your hand	
Capillary Refill Time	< 2 seconds to return to normal	Your hand	
Hydration	<2 seconds	Your hand	
Gut Sounds	See notes	Stethoscope	
Hoof temperature and digital pulse strength	Hooves : Cool to the touch Digital pulse will vary with each horse	Your hand	

The ranges above can vary, it is important that BEFORE an EMERGENCY occurs, you know what is NORMAL FOR YOUR HORSE. A couple times before riding or working your horse, take a set of vital parameters (record in column to the right), do this a few times over a couple of days and take the average. Also do this after a hard ride (or 30mins after exercise) so you know what your horse's parameters may elevate to. Then when the unfortunate case of an accident occurs you have your horse's normal reference ranges to compare to.

If you have any concerns EVER, please contact your veterinarian. The above and below information are just a guideline, if you have any questions or concerns please contact your veterinarian for further information or details.

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Tips to assessing above parameters:

1) Determine Pulse/Heart Rate:

Easy to access locations:

Press your fingers against an artery. There are several locations where an artery can be felt.

- a) **Facial:** Gently place fingers 1) back edge of the lower jaw, or 2) the inner surface of the groove under the jaw. You will feel a large thread like vessel; hold 2 fingers gently over this vessel and count number of pulses you feel.
- b) **Digital:** Run hand down the leg to pastern region, just on the inside or the outside aspect of the pastern hold two fingers in this area and you should feel a pulsing vessel. If doing this pulse notice how strong or weak the pulse is on your horse (strong pulses that are abnormal for YOUR HORSE, could indicate issues in the hoof). While taking this pulse also note if the hoof is warm, cool, or hot to the touch.
- c) **Over the heart:** Take with stethoscope just behind left elbow. A horse has a slow pulse rate, if using a stethoscope listen for a “Lub Bub” do not double count the slow single heart beat as two. OR Place your fingers inside the elbow, up and forward against the chest wall and count the pulses.
- d) **Tail pulse:** Place 2 fingers gently on the under aspect of the tail just away from the tail base. Place fingers in the center of the soft tissue, and count the pulses you feel

Other comments: You can count the number of beats over 15 seconds and then multiple the number by 4 to obtain the beats per minute. You can also count for the entire 60 seconds if you wish. Try to keep your horse calm as anything (even a passing truck, horse, bucket of grain, etc) can cause a temporary elevation in the heart rate. Again take a normal reference range for you horse, so you know what values you should be comparing an abnormal value against.

2) Respiration Rate

A few options

- a) Watch your horse’s flanks move in and out to count the respiration
- b) Use as stethoscope to listen directly on to the lungs and count the respiration
- c) Place stethoscope over trachea and count the respirations
- d) Watch the nostrils for “steam” (easy in Albertan winters) and count the number of new steam bursts you see.

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3) Temperature

Stand next to your horse's hind leg, facing the direction of his tail, close enough for your shoulder or side to be in contact with him so you'll sense any motion in his body if he begins to get antsy. If you are right-handed, stand on his left side, with the thermometer in your right hand; if you're left-handed, stand on his right side, with the thermometer in your left hand. Throughout the procedure, be careful not to turn your body to face his leg, as this puts you in a very vulnerable position—your knees won't be free to bend if he kicks or moves suddenly in your direction.

Next, place your arm closest to the horse across his croup and gently grasp the top of his tail in your hand. Raise it up high enough to give your other hand access to the anus. If your horse is young or you're not sure how he reacts to thermometers, gently touch the skin around the outside of the anus with the thermometer before inserting it. This will help to accustom him to the feel of it. Then guide the end of the LUBRICATED thermometer into the rectum, pressing it several inches inside, leaving the digital screen outside the body so you can see it while it registers the temperature.

Continue holding the tail and the end of the thermometer firmly until the final reading is clear (consult the manual that comes with the thermometer ahead of time to see exactly how your particular brand indicates this). Then gently remove the thermometer and double-check the reading.

Use this baseline temperature for comparison when your horse shows signs of stress or illness. If his temperature goes above normal, consult your veterinarian. However, because spiking a temperature of 105 degrees or higher, whether due to exercise or illness, can lead to serious secondary problems, such as laminitis or colitis, immediate veterinary care is recommended.

4) Gums

Gums (lift your horse's lip near where you would put a bit in), inside lips of a mare's vulva and nostrils should be pink. A fire engine red color usually denotes illness. Anemia causes a pale color. Lack of circulation causes a bluish-purple color. Yellow can indicate a liver problem. If any color other than pink is observed call your veterinarian.

5) Capillary Refill Time (CRT)

Rate of capillary refill (the rate blood returns to an area) indicates the quantity and condition of the circulating blood. Capillary refill can suggest anemia, colic, congestion and shock. You can determine capillary refill time by pressing your thumb on the horse's gum and releasing it. It should take about two seconds for the blood and normal color to return to the area. Longer capillary refill times can be indicators of dehydration or a circulatory problem. The gums are moist in a normal horse, with dehydration or compromised circulation the gums can become tacky. If any prolonged CRT is observed contact your veterinarian.

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6) Hydration

Check skin pliability for dehydration. Pinch a fold of skin on the neck and release it. It should quickly return to its original position. If the horse is dehydrated, the skin returns slowly and tends to stay in a fold.

The gums of the horse may also be tacky to the touch in a dehydrated horse. If you think your horse is dehydrated offer it water, and if you have any concerns contact your veterinarian.

7) Gut sounds

Listen in the upper and lower regions of your horse's flanks, you should be able to hear gurgling and gas type sounds (imaging your stomach is grumbling) on the left hand side. Listening to the right hand side, you should hear a tinkling or slow water drip type sound followed by almost a "flushing" sound. Each horse's gut sounds are different so listen to them until you know how frequently you hear these sounds on your horse (record in chart). If sounds are decreased or absent and your horse is showing signs of colic, or you have any concerns contact your veterinarian immediately. Listening for gut sounds is something you can have your veterinarian go over with you and show you how and where to listen to in more detail at your next appointment (just ask).

8) Hoof temperature and digital pulses

This is very dependent on each horse, so take the time to get used to how strong/prominent your horse's digital pulses are, as well as his/her hoof temperature (you can compare leg to leg). If your horse's digital pulse ever becomes VERY STRONG, INCREASED, or BOUNDING at rest, contact your veterinarian as there can be a risk of laminitis or other hoof/lower leg issues. If your horse's hoof is warm/hot to the touch it can also indicate medical issues, and it is recommended to pick your horse's hooves out, look for foreign material, observe smell, discharge etc. Have these things done and then contact your veterinarian as there could still be medical problems in the hoof that you may not outwardly observe (ie. Laminitis).