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## Walk it Off... or Not?

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The sky is blue, the sun is warm on your shoulders and you're enjoying a wonderful ride. Suddenly, you feel as though the horse beneath you has turned to stone. His face is tense and anxious, his heart (and yours!) is pounding and he refuses to budge. Could this just be a muscle cramp? Tying up? Colic? What just happened, and what should you do next?

Although an exact diagnosis and therapeutic plan requires the assistance of a veterinarian, let's assume that those options are not immediately available to you far out on the trail. There are still a few diagnostic tools available to you to help decide how best to help your horse here and now.

Your first move should always be to dismount and loosen the girth an inch or two. Unless the day is still and absolutely sweltering, throw a rump rug or jacket across your horse's hindquarters to keep the large muscle groups warm. Don't start emptying water bottles over your horse until after you've had a chance to determine what's wrong--you may well need that water later on. Don't ask your horse to move until you've had a chance to rule out a severe tying-up episode. Blithely choosing to "walk it off" without thinking it over first may well cost your horse additional, even life-threatening, muscle and kidney damage.

Start your exam by observing how your horse is standing and behaving. Is he turning to look, bite or kick at his abdomen, suggesting colic? Is he standing stiffly with his hindquarters slightly tucked and possibly trembling, indicating tying-up or cramps? Is he favoring one limb due to anything from a stone bruise to tendon injury? Ask him to walk forward *just a step or two*. Does each limb swing forward normally and evenly, or is the stride of one leg shorter and bearing less weight than the others? Is the tail tense and clamped, relatively relaxed and easy to lift, or totally floppy? Do the large muscle groups of the hindquarters look and feel stiff and bunched? If so, are both sides equally tense, or is one side considerably more affected than the other? Is he relatively willing to move forward, or does he seem like he's suddenly grown roots?

Although clinical signs may vary considerably, the most common presenting signs for musculoskeletal problems are presented in Table 1. In general, horses with an acute tendon or ligament injury act relatively normal, with gait abnormalities often being the only sign that something is wrong. Muscle cramps are more sudden in onset and may be difficult to differentiate from the much more severe and metabolically threatening rhabdomyolysis (tying-up). Tying up can occur very early in a ride (very sudden onset, more often in young, nervous fillies, horses with heavier muscling, horses on high grain rations); or can appear late in a strenuous ride, when dehydration, energy and electrolyte depletion contribute. If in doubt as to whether this is a muscle cramp or tying up, assume the worst and treat your horse accordingly.

Do NOT ask your horse to move, even if the trailhead or barn is just a bit down the road. Doing so causes even more muscle damage and releases a flood of waste products that can cause irreparable kidney damage. Use every tool available to you to relax your horse, *including* keeping calm yourself. Speak softly, move slowly and smoothly and give your horse lots of soothing strokes---the psychological message that "all is well" is a powerful one for the majority of horses. Use small touch circles over the large muscle groups, but do NOT attempt to stretch the limbs themselves. If not too painful for your horse, apply massage by

leaning your entire forearm against the hindquarter muscle mass and slowly pushing upwards and forwards towards the heart to help the muscle relax and restore blood flow. Unless your horse is otherwise head and ear-shy, gently folding the ears lengthwise and stroking outward is often very relaxing, and includes several acupressure shock points as well. Likewise, gentle massage along the upper gums above the incisors also encompasses useful acupressure points.

Do not pour water on the horse, but make an attempt to provide a few swallows of water by any means available. A large baggie tucked into the saddle pack is a handy way to carry and offer water. Even if your horse is eager to drink, limit him to a few swallows every ten minutes or so for the first half hour (and yes, you may well be here much longer than that). You don't have the option here of warming the water in his stomach by walking on down the road, so stay conservative. If you carry a syringe of electrolytes in your saddle pack, give him half a dose after a few swallows of water, and another half in 15-20 minutes. Absorption of electrolytes is quicker and more efficient if their concentration in the stomach is somewhat dilute. Even if your horse is uninterested in drinking, squirt a little water in to wet his mouth. Doing so encourages the horse to lick his lips, relax his jaw, and in turn lower the head and relax the body.

Pay close attention if the horse urinates. Normal urine should be no more than a light to medium straw color, even when the horse is moderately dehydrated. Urine that could be characterized as "peeing coffee" is a strong indication that myoglobin---one of the waste products of damaged muscle---has been released into the bloodstream and is being excreted by the kidneys. Although a natural and normal component within an intact muscle cells, myoglobin is toxic to the cells of the kidney and in sufficient quantity, can spell acute renal failure. Dark urine is another strong indication that the crisis at hand is rhabdomyolysis and not a relatively minor muscle cramp.

Unless this is just a muscle cramp (which usually relaxes within a few minutes so you can hand walk in), expect that you will need veterinary help to provide rehydration, pain relief, sedation and muscle relaxation. Although some veterinary drugs are easily obtainable, resist the temptation to carry or dispense such drugs yourself unless specifically instructed to do so by a veterinarian for the case at hand. Ill-informed treatment while the horse's system is dehydrated and compromised can produce truly catastrophic results.

Assume now that during your initial exam, your horse's muscles appear to be fine, but your horse is clearly uncomfortable, maybe even grunting a little. Checking for gastrointestinal problems should be high on your list.

Regardless of whether you ride with a heart monitor or not, a good stethoscope should always be in your saddle pack. Learning how to use it beforehand, and familiarity with your horse's normal sounds, will be your best defense against long term damage during a crisis. Gut sounds (more correctly referred to as "borborygmus") should be listened to in four general quadrants---two on the left and two on the right, which correspond roughly with major portions of the equine cecum and large colon. If you were standing behind the horse, these areas of interest are located more or less at two o'clock, four o'clock, eight o'clock and ten o'clock, in the flank and abdominal area behind the last rib and in front of the point of hip.

Place the stethoscope in your ears so that the ear pieces are pointed forward and listen carefully to all four quadrants for at least 30 seconds each. Before you can determine what "abnormal" sounds like, you should have spent plenty of time listening beforehand learning what "normal" sounds like for your horse. In general, normal gut sounds are a low-pitched, somewhat leisurely rumbling, gurgling or growling sound, produced when peristaltic action migrates down the GI tract to propel ingesta onward. Each contraction may last for several seconds, occurring at regular intervals, several times per minute. Don't just "plant" the stethoscope in one spot, move it around to different areas until you're getting a good listen. Sounds may vary widely between quadrants, so take note of the differences.

A high-pitched, almost tinkling sound may indicate pockets of gas and accompanying discomfort from the stretch receptors located in the walls of the digestive tract. Normal but decreased sounds (the most common presentation during strenuous exercise) generally indicates that blood is being shunted away from the GI tract, often from overexertion, pain or excitement. Gentler exercise often resolves this type of colic or "ileus" fairly rapidly with little or no veterinary attention required. A higher level of pain and discomfort may indicate impacted material (in which food, sand or other substances in the digestive tract form a logjam

blocking normal movement). Worst case scenario, a developing torsion or “twist” is often indicated by rapidly developing level of pain, abnormal mucous membrane color (very pale or a muddy brick color with a slow capillary refill time exceeding 2 seconds) and an almost uncontrollable tendency to lie down and roll. Listening to gut sounds in these two latter instances can be conflicting and confusing. One quadrant may be dead quiet, another gassy and “pinging” and others even sounding hypermotile (splashy and almost constant) as fluid is secreted into the GI tract at an increased rate. In cases like this, all you really need to know is that this is beyond anything you can do for your horse in the field other than to walk him home to medical help as quickly as possible.

In almost every case of colic encountered during strenuous exercise, slowing down is your primary treatment. Blood flow is rerouted back to the GI tract most effectively when the horse is working at roughly 20% of his aerobic capacity. Although this may be a medium trot for a fit horse, the additional discomforts of a jarring gait make walking a better choice. In any event, don't make the assumption that things will improve if you just slow down, and continue on with your planned ride. **TURN BACK.** Many minor colic episodes can evolve into a life threatening torsion (in which the intestine twists upon itself to strangulate the flow of blood and ingesta) if not treated. Rider weight and a snug girth even at a walk can add to discomfort, so resign yourself to hand walking back in. If green grass presents itself, a few mouthfuls can help stimulate peristalsis in the digestive tract again, but don't overdo it. Adding in yet more food with nowhere to go can easily exacerbate an impaction colic. If your horse is disinterested in grazing, all the more reason to make your way home to veterinary help as efficiently as possible.

What if fate conspires against you that day and more than one scenario presents itself at the same time? Which has the highest priority? In all cases, a severe episode of tying-up is a potentially life threatening syndrome, demanding that you not move the horse until help arrives. Using every means at your disposal to calm and relax your horse will benefit a potentially colicky horse as well as one suffering from a tie-up.

If the combination of events is a limb injury plus colic (not unlikely given that intestinal function is often impeded by pain and distress), colic becomes your highest priority after appropriate first aid. Wrap the injured limb in a support bandage (an essential item for your saddle pack) and hand walk homewards. Adjust your speed based on the extent of the injury, but try to maintain steady progress. If your route takes you across water, stopping for a drink and a few minutes of cool water on the affected limb will help keep swelling down. This strategy changes only if the injury is a catastrophic one, such as an obvious fracture. Under these circumstances, movement will only further injury and potentially turn a repairable injury into a hopeless one. Stay in place and wait for help.

Although there is no substitute for veterinary treatment, prompt and compassionate therapy in the field can often make the difference between permanent injury and a mere speed bump in your long term conditioning program. Arm yourself by being prepared with both knowledge and a few simple tools residing in your saddle pack---a stethoscope and watch with a second hand, a syringe of electrolytes, a method for transporting water from a nearby stream such as a large baggie or collapsible bucket. Always carry several bottles of water on your saddle, even for short rides. Small first aids kits with an additional support wrap and hoof pick are lightweight and essential. Leave equine drugs at home, knowing that they may do more harm than good. Above all, never ride without knowing you can get help if you need it, either via cell phone, riding with a companion, or just leaving a note of where you plan to ride and when you expect to be back. Although maintaining a line of communication may infringe on the independence of riding alone in the wilderness, responsibility towards the well-being of both yourself and your horse requires both common sense and forethought.

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**Table 1.**

<b>Diagnosis</b>	<b>Physical Presentation</b>	<b>Overall Demeanor</b>	<b>Gut sounds, HR, CRT</b>	<b>Therapy</b>
Muscle cramp	Sudden onset, most likely in large muscle groups, may be one- or both sides.	Variable—usually tense and anxious, but alert	Normal to decreased gut sounds, HR somewhat elevated, CRT normal (< 2 sec)	Massage, warmth until signs subside, walk home
Rhabdomyolysis (severe tie-up)	Body and hindquarters “turned to stone” and often trembling. Tail tone is tense and clamped. Anal tone present. If occurs late in strenuous ride, may also show signs of exhaustion (see below).	Very tense and anxious, painful	Normal to decreased gut sounds, elevated ‘hanging’ heart rate, CRT often > 2-3 sec due to dehydration if exercise has been long and strenuous.	<b>DO NOT MOVE!</b> Keep hindquarters warm, Ttouch and massage, provide water and electrolytes, send for veterinary help.
Tendon, ligament or bone injury	Gait abnormality is often first and only symptom. Otherwise normal except for affected limb. Forelimb much more likely to be affected than hindlimb.	Varies with pain level and severity, often very relaxed and interested in surroundings	Wide variation in gut and HR, often normal if not in extreme pain. CRT normal.	Cool affected limb with water if available, support wrap, hand walk home
Exhaustion	Gradual onset, muscle and tail tone may be floppy. Anal tone decreased to absent. Horse is easy to move sideways by pulling on tail.	Dull, disinterested and “looking inward”.	Decreased to absent gut sounds, elevated, hanging HR, CRT may be well in excess of 2-3 sec	Water in small increments, oral electrolytes, 1-2 minute grazing intervals if interested and available, hand walk home.