

CHIROPRACTIC THERAPY FOR THE PERFORMANCE HORSE

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Lance Armstrong was treated by one during his record-setting Tour de France victories. Professional sports teams use them to keep players in peak condition during the season. None of these athletes are asked to perform while carrying a rider. So, does your horse have a chiropractor?

Chiropractic is, in many ways, a misunderstood therapy. Putting a bone that's "out" back in place, right? Not exactly. The spine is dynamic; anyone who can appreciate the difference between the spinal curvatures of a bucking bronco and a horse scratching its ear with a hind hoof can see that the "normal" position of the back depends on the activity. When these various functions of the normal spine become difficult or painful a chiropractor is needed. Chiropractors diagnose, and then correct, *subluxations*, or more specifically, *vertebral subluxation complexes*. When these subluxations occur, the normal range of motion in a joint of the spine is compromised. This leads to dysfunction not just of movement but also nerves (pain or numbness) and muscles (spasm or atrophy). In addition, inflammatory changes take place at the cellular and biochemical level. The chiropractic correction, or *adjustment*, uses an exterior force to restore normal function to the vertebral joint(s), so that the horse can both buck *and* scratch its ear without pain.

The spine is a collection of individual bones called vertebra, bound together by joints, ligaments, and intervertebral discs. Its primary function is the protection of the spinal cord, that soft-tissue highway of nerve impulses without which a horse would be unable to walk, much less passage. Secondly, the spine allows for movement of the head, neck, and torso and transfers power and stress from the limbs. All mammals have seven cervical, or neck, vertebra. (Okay, okay, so manatees and sloths are the exception, Mother Nature's little joke on biologists). The joints of the neck are the largest of the spine, allowing for the greatest flexibility and for equal degrees of movement in flexion/extension, bend, and rotation. The first two bones of the cervical spine, the atlas and axis, are specialized and allow for all the fine motor movements of the skull, while the remaining five contribute to larger movements of the neck. The trunk, or thoracic spine, is very long in the horse: eighteen vertebra, each with a pair of ribs, compared to only twelve in humans and thirteen in dogs and cats. This area of the spine is very stable—the ribs protect the heart, lungs, and liver—and the joints are comparatively small, lie mostly in the horizontal plane, and contribute to lateral bend. The low back, or lumbar spine, has six vertebrae (five in some horses) and is more mobile. This is where much of the power of the hind end is generated: the joints are vertical, allowing for a great deal of flexion and extension, storing and releasing power from the hind legs like a spring. The connection between the spine and the pelvis occurs at the sacrum, a specialized vertebra that connects to the lumbar spine at the lumbosacral joint and to the pelvis at the sacroiliac joint. These connections surrounding the sacrum allow the pelvis to tilt, critical for transferring weight to the hind end. Beyond the sacrum there is the tail, the number of vertebra here varies from horse to horse, and has little function in performance other than helping slightly with balance, fly control, and expressing

displeasure at a rider's position. It is important to remember that even though we classify areas of the spine for anatomic purposes, the spine functions as a whole and that problem in one area will affect movement throughout. For instance, if the lumbosacral joint is not moving and the horse is having difficulty shortening its frame, it will most likely either over-flex at the poll or hollow the mid-back or both.

When subluxations occur at one, or (as is more likely) many locations, symptoms arise that correspond to the function of the affected area. Atlas and axis subluxations create pain at the poll, abnormal head position, and/or resistance to proper head placement under saddle. Problems in the rest of the neck can cause muscle spasm, inflexibility, or the inability to elevate the base of the neck, which can shorten the stride of the front limbs. Thoracic chiropractic issues create problems with bend, girth pain, hollowing of the back, and tend to be very painful. Lumbar subluxations are also painful and tend to result in a loss of suspension and power. Dysfunction at the sacroiliac joint often results in sciatic pain and problems with canter leads. Tail issues usually result in nothing more than tail-carriage problems, though many horses are born with slight kinks in the bones of the tail that are not correctable.

People frequently ask, "What causes chiropractic problems?" and the simple answer is—trauma. However, trauma takes many different forms. There are obvious instances like a bad fall or accidents in the crossties. Some are subtler: long hours under anesthesia, getting cast in a stall, a difficult birth, or compensation because of arthritic pain or poor shoeing. Somewhere in-between is the answer no one wants to hear: *riding causes chiropractic subluxation*. For the sake of argument I will assume everyone reading this article is perfectly balanced in the seat, soft in their hands, and rides in a saddle that fits their horse like an Oscar gown fits Charlize Theron. Likewise I will assume that no one uses training aids like draw reins, chambons, side reins, long reins, martingales, and will forego bits for a hackamore. Good, now that we're all feeling superior, I'll tell you that your horse is still more likely than not to develop chiropractic issues. The problem is the very nature of training. Training is repetition. By definition it is teaching an unknown skill. That means that at the beginning of training a horse is not quite strong enough, or coordinated enough to perform a new skill correctly. This means repetition plus imbalance and often fatigue. Add in a rider who is also learning a new skill (present company excepted; I'm writing here about those *other* riders) and the problem is compounded. I often see patients who have been working great, needing only occasional adjustment, then move up a level and are suddenly needing correction again until they develop the skill and strength to perform at this new level.

The application of the chiropractic adjustment is both a skill and an art. There are many different techniques that can all accomplish the goal of correcting a subluxation. Some chiropractors will use long-lever, high force techniques, which will often incorporate using one of the limbs to adjust the spine. Others will use short-lever, high force adjustments, applying force as close to the affected joint as possible. Low force, slow techniques can be used to fine tune adjustments or adjust areas too painful for high-force techniques. Tools like activators, little spring-loaded instruments, apply faster forces to smaller areas than the hand. Some practitioners may use multiple techniques on the same

animal, even changing technique on the same vertebra if one is not working. It is crucial that practitioners have appropriate training. As big and powerful as horses are, improper knowledge of spinal anatomy and/or sub par training can injure a patient—a neck can sprain just as easily as an ankle. A few sources that can be used to find veterinary chiropractors with adequate training are the American Veterinary Chiropractic Association (animalchiropractic.org) or the American Veterinary Holistic Medical Association (ahvma.org or holisticvetlist.com). In the hands of a good chiropractor, most problems will require only about 3-5 treatments to correct. If a particular problem is not improving with therapy, chiropractic spinal issues are likely not the primary issue and either more diagnostics or investigating other therapies is necessary. That said, once the initial problem is corrected many horses will require occasional adjustments due to the rigors of training. Chiropractic therapy is not magic; it is one of many tools that can be used to keep athletes comfortable and performing well. Knowing why it works can help riders decide if it is the right tool for their horse.

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