

COMPLEMENTARY MEDICINE & THERAPY FOR LARGE ANIMALS

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The purpose of this lecture is to provide information about complementary medicine and therapies: what they are, how they work, when they are helpful, when they are contraindicated. The term *complementary* is used to indicate that these modalities are an adjunct to allopathic care, not only an alternative. They may provide alternative outcomes, including the avoidance of surgery, reduction in medications needed, and the avoidance of complications in treatment or recovery. It is important to have an understanding of these modalities because of their widespread use, and potential misuse, in treating large animals. They can enhance the quality of care that we can provide and more importantly, they can enhance the quality of life for the animals.

CHIROPRACTIC

Chiropractic is a successful, noninvasive, cost effective technique for treatment, rehabilitation, and prevention of much common lameness and illness. Chiropractic is based on manipulation of joints of the spine and extremities to affect optimum function and balance of all structures, in other words, *straightening the hardware so the software can run*. Ninety percent of the input to the nervous system is from joint receptors and stretch receptors in tendons, ligaments, and muscles. The nervous system runs the whole animal; therefore managing the nervous system through these receptors is efficient, accurate care. The spine and extremities of horses can be easily manipulated if the practitioner has appropriate training and skill. Good chiropractic is not violent or uncomfortable. The animals can understand it, enjoy it, and often obtain immediate relief from it.

Chiropractic adjustments may vary between practitioners; there are more than a hundred types of chiropractic techniques, many of which are applicable to animals. The foremost consideration is that the animal is not harmed, as should be the case in all medicine.

Chiropractic care involves *accurate* manipulation of individual joints through normal planes of motion using high acceleration, short range-of-motion thrust that effects a reset of joint receptors and normalizes joint orientation. The practitioner must have training in both species-specific anatomy and accurate technique. Chiropractic can be very exact in managing the nervous system; sophisticated techniques have far reaching and subtle effects.

Balance in animals is the effective interaction of the nervous system, the frame, and movement with gravity. The interface of the nervous system with gravity is mostly through the feet. The monitors of gravity, the balance regulating mechanisms, are in large part, the upper cervical head-righting reflexes and the temporomandibular joint (the jaw joint). Eighty percent of the aforementioned ninety percent of input to the brain

comes from the second cervical vertebra and the joints rostral to it, including the skull. Therefore, appropriate farriery and dentistry are of the utmost importance in maintaining balance and straightness. Two things are not going to change - 100 million years of evolutionary biomechanics and gravity. Dentistry and farriery allow them to interact effectively as they were designed.

Chiropractic is necessary is when an animal is asymmetrical, "dumb", or "crabby". Chiropractic may be helpful after any trauma, toxicity, or stress. Therefore any animal with a history of illness or accident is a potential chiropractic patient. Chiropractic care is best used preventively and as maintenance health care. Evaluation of young animals can minimize the future effects of early life asymmetries and often allow these animals to reach their full potential. The rare horse that does not need chiropractic is usually small, barefoot, short-toed and either very lucky not to have been injured or is an outstanding athlete.

Most painful pathologies - arthritis, degenerative joint disease, back pain, etc. often are *not* primary problems. They are the signs of overuse or hypermobility caused by restriction of normal movement or hypomobility somewhere else in the system. Chiropractic is the facilitation of appropriate movement of all joints so that all joints share the stresses appropriately. The majority of chronic lameness problems are not injury related but are the result of unbalanced wear and tear. Everything from navicular disease to osselets, hock problems to stifle problems, hip problems and the majority of back problems are almost *always* secondary symptoms of underuse/overuse, compensation for other problems, lack of motion or pain elsewhere in the body.

Normalizing joint function and balance may eliminate the use of anti-inflammatories. Using anti-inflammatories without resolving the cause of joint use imbalances may not be as effective, can shorten the functional life of a joint, and may have other detrimental physiologic effects.

Usual complaints that cause owners to seek chiropractic treatment for horses are proprioceptive problems, stiffness, uneven gaits, stifle or hock problems, sore backs, chronic front foot pain, obscure lameness, training or behavioral problems, poor development, plus a host of more specific problems and diseases. Animals with high stress occupations, or animals with preexisting conditions or conformational problems, may require more frequent adjustments than those needed for maintenance health care. Horses that cannot stand patiently or comfortably for shoeing are potential chiropractic patients as this may be evidence of balance, torque, or strain problems in the system.

Anything that is run by the nervous system can be influenced by chiropractic - musculo-skeletal, digestive, immune, reproductive - all systems can improve with better neurologic function directing them. Chiropractic care is a systematic way of eliminating structural and neurologic dysfunctions that cause pain, alter performance, cause organic disease, and result in emotional and training problems. Its effects can be profound, long lasting, and life changing.

It is as important to recognize the practice of poor chiropractic technique as it is to understand good chiropractic work. Manipulation can be dangerous if applied inappropriately, or by an unskilled practitioner. Gross, full body or long lever movements are *not* accurately applied chiropractic, one cannot adjust a neck or withers using a limb, one cannot adjust a spine using a hind leg. Therefore, some spectacular

techniques are not necessarily accurate, and any technique that requires joints to go through an unnatural range of motion is potentially career ending for the animal. Slow or rough techniques will cause the patient pain and will create physical and emotional guarding and tension that will limit further adjustment. Inaccurate adjusting can worsen the condition, and unknowledgeable or inappropriate technique can cripple or have no beneficial effect and waste time. Good work will almost always effect noticeable improvement and will be well received by the patient.

Chiropractic is appropriate as adjunctive care for any persistent lameness or training problem, health concerns that do not resolve in a normal manner, and as good preventative health care.

ACUPUNCTURE

Western and Eastern veterinary medicine are very different but complementary forms of health care. They differ in their philosophical and practical view of the mind-body interaction with the world. Western medicine evaluates the external causes and resulting pathologies of illness and concentrates on eliminating these. Eastern medicine focuses on basic body function and the body's reactions to illness and assists these to eliminate or prevent disease.

Acupuncture is an ancient and complex system of medicine. It is widely accepted in the horse industry, mostly for the treatment of back pain, but it is certainly not limited to that. Acupuncture is often an effective treatment for chronic problems of foot and joint pain, chronic and non-responsive illness, including heart and kidney disease, allergies, heaves, moon blindness, and other immune-mediated problems. Acupuncture can also be effective in modifying behavior.

Acupuncture is the stimulation of specific receptors that modify input to the nervous system and therefore change function. The integration of neurologic information from the body with acupuncture stimulation results in the balancing of Qi, or energy flow, that is discussed in traditional acupuncture theory. Its effect is somewhat analogous to the direction of electricity by the fail-safe computer programs of power companies that ensure that power supply is uninterrupted to utility consumers even under conditions such as storms, increased demand, or equipment failure.

The autonomic nervous system and its reflexes control the defense systems in the body, both internal and external. The neuroendocrine system allows an animal to adapt to changes both inside and out. A primitive part of the nervous system is also involved in the sensing, control and regeneration of damaged tissue and pathologies such as wounds, fractures, early neoplasms, inflammation, etc. Acupuncture can have a profound effect on modifying autonomic function and directing this primitive system. Because the autonomic nervous system of the horse is extremely sensitive, as is evidenced by the fragility of animals in stressful physiologic states such as colic and anesthesia, acupuncture is particularly effective in this species.

With simple acupuncture there are no significant ill-effects; the worst that can happen is that the treatment has little or no effect. No change, however, is rare. Most animals experience a profound endorphin release and appear almost tranquilized while being treated with acupuncture. Physiologic, sensory and motor function can be immediately and sometimes permanently normalized.

Acupuncture techniques can be applied by traditional needles, by aquapuncture (injection of various fluids into acupuncture points), by laser, by pressure, and by electrical and heat stimulation.

MASSAGE

There are many different massage techniques, each with a different approach, including sports massage, myofascial release, cross-fiber friction massage, and cranial techniques. Massage assists normal body function by increasing circulation, facilitating scar release, providing neuro-muscular re-balancing and relaxation.

Massage can be used pre or post competition for performance enhancement. It can be very helpful in reorganizing musculature that has been unbalanced by chronic compensation for pain. For example, many horses with a history of heel pain will not regain normal extension of the anterior stride phase even when the pain is relieved unless chronic muscular contracture of the flexors is released through accurately applied techniques.

Massage is contraindicated if an animal has a fever, if the injury is acute, or if there is an area of bruising. Not only is massage not helpful in those cases, but it can actually be detrimental. A qualified, preferably certified, massage therapist should determine whether massage is appropriate or not.

ELECTROMAGNETIC THERAPY

EMT is the use of electromagnetic fields to stimulate or accelerate blood flow and energy movement within tissues to alleviate inflammation and pain and to allow maximum healing to occur. Two types of devices are common: the pulsed alternating field type (with electrical wiring in the blankets, bandages, or bedding) which are adjustable in strength, frequency, and duration of treatment, and the static type (which utilize small magnets arranged in alternating polarities within the blankets and wraps).

Alternating polarities attract ions in blood and cells increasing fluid flow as well as enhancing ion exchange at the cell membrane level. This increases function at the cellular and vascular level. EMT can make tissues more flexible and less prone to injury. It can be used for maintaining sufficient blood flow for toxin removal and repair after strenuous work in performance animals. The increase in electrical energy flow can also enhance the flow established by acupuncture. In conjunction with other therapy modalities, it can reduce rehabilitation time after surgery. EMT can also be used in healing fractures; it is excellent for treating nonunions.

EMT usually calms and relaxes the animal. A few horses' signs may be slightly worse immediately after treatment - these animals usually have severe postural defects from structural, shoeing, or dental problems resulting in major blockages in the nervous and the circulatory system. These animals often show improvement from the treatment several hours later.

LASER

Cohesive infrared light, or cold laser, can be used to provide energy for cellular metabolism by converting ADP to ATP in the mitochondria, thus facilitating transport of nutrients into and toxins out of cells. It is especially valuable in conditions where the

blood supply may be insufficient to support the cells. Laser therapy can keep cells alive and functioning and thus enable these injuries to heal faster, with less scarring.

Laser therapy is most commonly used for wounds and soft tissue healing. It is also useful as a powerful acupuncture tool. It can reduce pain and tension and reset proprioception, thereby normalizing function, and allow horses with non-structural pain, such as grabs and bruising, to move soundly. Laser treatment will not block structural pain such that an animal will unknowingly hurt an injured limb. It is not appropriate to use lasers over infections, tumors, or certain topical medications, such as furacin, blisters, or liniments, as this may cause an inappropriate increase in circulation and inflammation.

HOMEOPATHY

Homeopathy is electrical informational medicine. A substance that is shown to produce particular signs or symptoms is serially diluted and succussed (vigorously shaken) until there is a *very* small proportion of the original substance remaining in the solution. It is thought that this "infinitesimal dose", as it is called, contains the electrochemical pattern of the medicinal substance. The science of physics is now beginning to explain the underlying mechanism of the interaction of the body with this electronic signature. Homeopathic remedies are specific for sets of neuronal systems within the body. Activation or deactivation of a specific neuron group creates a spectrum of specific signs and symptoms. Accurate use of remedies can profoundly and quickly change function. A basic tenet of homeopathy is that "like cures like". Because of this, it is often mistakenly likened to vaccination. However, homeopathic remedies differ fundamentally from vaccines. Homeopathic remedies affect the energy of the body in order to stimulate healing and in doing so they strengthen the body's response to a disease-related stress.

Homeopathic case analysis includes subjective information about the patient, which is not considered relevant to the allopathic diagnosis, such as the animals' likes and dislikes, unique behaviors, and the time of day that signs are most prominent. Since homeopathic prescribing is done using a larger spectrum of signs, symptoms and history, astute observation by both the owner and the practitioner is prerequisite for accurate and successful use of this modality.

Homeopathy is best used before pathology is so great that conventional medical intervention is necessary or ineffective. It can be used to alleviate chronic inappropriate effects of illness, injury, and their treatment.

NUTRITION AND HERBS

Nutrition is fundamental to health. Inappropriate substances or imbalances in the diet can sabotage the best treatment. In recent years, the introduction of more highly processed diets and the lesser quality of forages due to hay production techniques and the reduction of diversity and use of pasture are resulting in nutritional imbalances and chronic diseases in horses much like those seen in small animals and humans eating unnatural diets.

The supplement industry for horses is trying to address these problems, however basic feedstuffs must be of sufficient quality *first*, and unbalanced or excessive supplementation must be avoided. Horses have survived for thousands of years on diverse seasonal grazing and browsing. Functional maintenance of the whole animal is

dependent upon not only the ingredients of the feed, but also the activity involved in acquiring natural food, the difference in how it is chewed, the water necessary to process it, the enzymes and bacteria contained in it. These functional components of diet may not be adequately addressed in confinement management, by processed feeds, or feeding practices.

Herbs can be as powerful as synthetic drugs; they contain pharmacological chemicals. Native North and South American and Eastern/Chinese/Ayurvedic herbology are very complex systems of medicine. Herbal preparations can be single or combination herbs. The balance of substances in traditional herbal medicines is fundamental to their efficacy. Indigenous cultural wisdom of herbal preparations and their effects is much more advanced than the models of pharmacologic action that modern science has been able to define. Balanced herbal prescriptions can create effects not achievable with drug management.

Prescribing of herbs by extrapolating from popular human uses may not be safe for animals as they may not respond physiologically in the same way as humans. Knowledgeable veterinary practitioners must be consulted for guidance in the use of these substances.

Nutraceuticals are a growing part of the animal nutrition industry. Scientific evidence of the efficacy of nutraceuticals lags behind popular use and anecdotal information. All of the data relating to the effectiveness and possible dangers of these substances must be taken into consideration when using individual or combinations of products.

CONCLUSION

In many situations, good veterinary treatment may involve multiple modalities, including surgery and drug therapy from conventional Western technology, along with complementary techniques to provide more complete and supportive care. This approach often outperforms other methodologies. Once the signs and symptoms have been treated, the health care is not complete until the underlying disease patterns have been reprogrammed. Often through complementary care, both the client and the practitioner, as well as the patient, will be directed to new levels of understanding, health and healing.

REFERENCES & RESOURCES

American Veterinary Chiropractic Association: <http://www.animalchiropractic.org/>
PO Box 563, Port Byron, IL 61275 USA, phone: 309-658-2958, AmVetChiro@aol.com
Professional certification in animal adjusting.

Colorado State University College of Veterinary Medicine & Biomedical Sciences,
Department of Clinical Sciences, Complementary and Alternative Veterinary Medicine
<http://www.vth.colostate.edu/clinsci/ce/acupuncture/index.html>
105 Equine Center, Ft. Collins, CO 80523, phone: 970-491-8509
Professional certification in veterinary acupuncture and manual therapies.

International Veterinary Acupuncture Society: <http://www.ivas.org/>
P.O. Box 271395, Ft. Collins, CO 80527-1395, phone: 970-266-0666, office@ivas.org
Professional certification in veterinary acupuncture.

The American Academy of Veterinary Acupuncture: <http://www.aava.org/>
Box 419, Hygiene, CO 80533-0419, phone: 303-772-6726, AAVAoffice@aol.com
National organization for veterinary acupuncturists.

The Veterinary Acupuncture Page: <http://users.med.auth.gr/~karanik/english/veter.htm>
Excellent resource for information.

D'Al School of Equine Massage Therapy: <http://www.serix.com/~darcyinc/equine.htm>
phone: 519-673-4420 or 519-673-3965, darcyinc@serix.com
One of very few government recognized certification programs available in equine massage therapy.

Steiss JE. Magnetic Field Therapy: Theory and Application Principles, in *Proceedings*.
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Medicine 1999;51-53.
The proceedings of this symposium is an excellent resource.

MacLeod G. *The Treatment of Horses by Homæopathy*. London: Eastern Press Ltd.,
1977.
A classic homeopathy text.

Castro M. *The Complete Homeopathy Handbook*. New York: St. Martin's Press, 1990.
An excellent primer in basic homeopathy, clear and concise explanations.

The Nutraceutical Alliance: <http://www.nutraceuticalalliance.com/>
Organization of manufacturers of nutraceuticals for animals.