

## **Alternative Medicine And The Food Animal Practitioner**

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### **Introduction**

Alternative therapies are of increasing popularity among clients in all aspects of veterinary medicine. Many of the therapies included under the umbrella of alternative medicine can be a useful addition to food animal practice, often providing pathways for maintaining homeostasis and health without the use of pharmacologic agents that can be potentially detrimental to the food supply. Acupuncture, chiropractic, laser therapy, herbal/food therapies, magnetic therapy, and many others are commonly used alternative therapies within the veterinary medical profession. What is included under the “alternative medicine” designation varies by state and as such the veterinary practice act should always be consulted.

### **Acupuncture**

Acupuncture is well known as an ancient medicinal technique. In many Asian countries throughout history, it was practiced on animals as well as people. In the United States there are two main schools that teach veterinary acupuncture including theory and practice. The International Veterinary Acupuncture Society was founded and incorporated in the United States in 1974 and has been a leader in training veterinarians in acupuncture ever since. Chi University was founded in 1998 and has trained over 9,000 veterinarians from 75 countries. In addition to these, there are multiple other programs that teach truncated skills often leaving out the metaphor and theory involved with the practice of acupuncture. Interest and practice of acupuncture in animals has been steadily increasing over time within the United States. The practice is common in companion animals and horses. It has shown promise in providing additional medical support in small animals with conditions like osteoarthritis, hip dysplasia, and intervertebral disc disease.<sup>6,7</sup> In horses, post-operative pain control, and anhidrosis are two of many problems that are responsive to acupuncture.<sup>8,9</sup>

Acupuncture is one of the major forms of practice within Traditional Chinese Veterinary Medicine (TCVM), also referred to as eastern medicine. Modern medicine (commonly referred to as western medicine) and TCVM are often viewed as incompatible with one another, usually due to a perceived absence of evidence-based support within TCVM. In reality, TCVM and western medicine often work synergistically with one another, working off the other's strengths and compensating for its weaknesses. To better understand how TCVM and western medicine can work together, first one must understand the differences between the two fields.

### **TCVM vs Western Medicine**

Within western medicine, health is often viewed as “the absence of disease.” In TCVM however, health refers to a state of balance and homeostasis throughout the entire being. When the body becomes unbalanced, whether from internal disruptions or external pathogens, this is when disease occurs. TCVM relies mainly on pattern recognition to reach a diagnosis and treatment is guided toward restoring balance to resolve the patterns identified. While a western diagnosis is often recognized in a linear fashion (Certain symptoms = disease = specific treatment), a TCVM diagnosis occurs in a more circular fashion. Each symptom or disease is a result of the underlying imbalance and a cause of perpetuating the imbalance. Many diseases can have the same pattern and many patterns can manifest as the same disease. Within TCVM, there are many approaches to reaching a diagnosis and treatment plan, which is beyond the scope of these proceedings. When a true integrative or holistic approach is achieved with a patient, eastern treatments augment the western medications/therapies, oftentimes resulting in stronger treatment responses or shorter treatment durations.

### **TCVM as a Metaphor**

Traditional Chinese Veterinary Medicine is a complex field that is well beyond the scope of these proceedings. For introductory purposes, a cursory explanation of TCVM theory follows. Often, the hardest concepts for a western practitioner to grasp when first encountering TCVM are the concept of Qi (pronounced chi), and the Chinese organs (zang-fu organs). When starting out, it is often easiest to begin by thinking of TCVM as a metaphor: in other words, think of it as the language ancient healers used to describe the interactions of blood flow, nerve impulses, fluid metabolism, and organ function within the body without being able to fully understand things as we do with modern medicine. Often, concepts are not tangible and should not be taken literally.

Qi, translated loosely as “vital energy,” is the foundation of acupuncture as a medical therapy. There are many forms of Qi within the body, many of which are beyond the scope of these proceedings. In simple terms, Qi relates to energy and its movement throughout the body. In a traditional sense, acupuncture works by manipulating the flow of Qi and blood. Similar to western medicine, the TCVM patient relies on harmonious function of the bodily organs. In TCVM, all but one of the zang-

fu organs carry names synonymous with tangible western organs, however the functions associated with those organs may or may not align with its western counterpart. In addition, the flow of Qi and blood follows a specific path through the body/zang-fu organs and any disruption or accumulation in the flow of Qi or blood can lead to significant problems. Re-establishing this normal flow is the basis of acupuncture.

### **Mechanics of Acupuncture**

The effects of acupuncture cannot be relegated to one specific mechanism. The understanding of the science behind the practice is continuing to evolve. It is clear that acupuncture involves nervous stimulation at multiple levels. Acupuncture points are arranged around the body on meridians. The points along a meridian are interconnected and activation of a point along the meridian will change electrical impulses and conductance across the entire meridian. Acupuncture points are located in areas on the body where there is low resistance and high electrical conductance which facilitates impulse propagation. In addition, free nerve endings, vessels, and tissue mast cells are present. The overall effect of an acupuncture treatment on the patient are dependent on the points and the type of stimulation chosen. Every acupuncture point has multiple potential actions based on the point location and the possible nerves activated by stimulation of the point. Placement of an acupuncture needle will cause local irritation and the production of many natural substances that lead to increased local blood flow, increased local immune factor release, as well as tissue and muscle relaxation. Signals will then travel up sensory nerve pathways to the spinal cord which allows for further effects on the body.

Points can be stimulated in many ways. Traditionally, dry needles have been used to stimulate points and is the most common method used in animal species. Additional stimulation of points can occur by adding heat (moxibustion), electrical charge (electroacupuncture), fluid (aquapuncture) or solid object deposition within a point. Laser and infrared, and magnetic therapy techniques are also commonly used to stimulate acupuncture points for desired effects on the animal.

### **One Point Wonders**

While all acupuncture points are typically used as part of a holistic treatment, several points can be used as a singular treatment to accomplish a specific goal. Below are four common acupuncture points that can easily be incorporated into everyday food animal practice.

#### **Governing Vessel 26 – The Resuscitation Point**

Location: on midline at the level of the ventral border of the nares – use a 25g  $\frac{3}{4}$ ” needle in small ruminants or a 22g 1” needle in calves and advance perpendicular to the skin until you hit bone or cartilage

Indications: cardiopulmonary resuscitation and apnea – works well in neonates, anesthetic induced apnea

#### **Governing Vessel 20 – The Prolapse Point**

Location: on dorsal midline just rostral to the highest point of the poll – palpate the highest point of the poll and place an 18g 1  $\frac{1}{2}$ ” needle under the skin angling rostrally, parallel with the skull

Indications: prolapse of any organ – place the needle as you are getting your supplies ready

#### **Governing vessel 1 – The Diarrhea Point**

Location: on midline at a point halfway between the external anal sphincter and the base of the tail (inject point just under the skin with 1-2cc B12)

Indications: diarrhea or constipation – works well in calf diarrhea OR obstipated pigs!

#### **Wei Jian – Tip Of The Tail**

Location: center point at the end of the tail - prick with an 18g or 16g needle depending on patient size and allow to bleed to release heat

Indications: fever, GI stasis

### **Chiropractic**

Modern chiropractic therapy originated in the late 1800's however versions of spinal manipulation have been practiced for much longer, even in the times of ancient China. The field of chiropractic focuses on the relationships between the structure and function of the body. Like acupuncture and TCVM, chiropractic therapy is based on restoring balance and proper function of the body to establish and maintain health. Through osseous adjustments, chiropractic therapy can directly affect the circulatory and nervous system improving the overall function and balance of the body.

The basis of chiropractic care lies in correction of the vertebral subluxation complexes (VSCs) through osseous adjustment. Vertebral subluxation complexes describe an aberrant relationship between 2 adjacent articular structures that lead to an alteration in the biomechanical or neurophysiological functions. An adjustment is a short-lever, high velocity, controlled thrust (performed by hand) to restore normal, functional mobility to a motor unit. A motor unit consists of 2 adjacent vertebrae, the intervertebral disk between them, the ligaments and muscles surrounding the joint, and the nervous tissues and blood vessels within the intervertebral foramen.

Chiropractic adjustments occur within the normal range of motion of a joint, and as such, advanced training is required to understand the finesse required to properly adjust a VSC. Understanding the normal range of motion, the trajectory at which the thrust should be applied, and other factors are crucial to a successful treatment. By applying the incorrect force to a thrust or applying that force in the wrong line of correction, chiropractic treatment can quickly transition from helpful to harmful, especially if performed by an untrained professional or a lay person.

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