Veterinary Acupuncture

Acupuncture refers to the technique of piercing the skin at specific points with needles to cause a desired healing effect or physiologic response. It is used to treat disease, and as a preventive measure to improve health and balance within the body. There are various methods of acupuncture point stimulation; techniques that I employ include dry needling, acupressure, electrical stimulation, light simulation, and aquapuncture.

The Science of Acupuncture

Acupuncture has been shown to act through stimulation of the nervous system. Research has demonstrated that one way acupuncture provides pain relief is through the stimulation of sensory nerves when a needle is placed. These nerves synapse or connect with inhibitory nerves in the spinal cord that block transmission of chronic pain impulses to the brain. Endorphins and other internal, natural chemicals are released into the body through acupuncture stimulation resulting in pain relief, and the relaxation that occurs in most patients. Acupuncture also affects neurotrophin levels in the nervous system. Neurotrophins are proteins that induce or promote the development, function and survival of nerve cells. Current areas of research to examine the effect of electroacupuncture on neurotrophins include neuropathic pain, neurodegenerative diseases, spinal cord injury, and the migration and survival of stem cells in injured spinal cord tissue.

Acupuncture enhances immunity by stimulating increases in white blood cell counts and activity. Increased levels of interferon and immune globulins have also been documented with treatment. Acupuncture can support internal organ health and function through overlap of nerve pathways from acupuncture points on the surface of the body and the nerve pathways to internal organs (somatovisceral nerves). Stimulation of specific points can selectively impact internal organs. Examples include therapy for patients with kidney or liver disease, and gastrointestinal imbalances such as constipation, diarrhea and vomiting.

Human studies using functional MRI have demonstrated that the needling of an acupuncture pain relief point results in decreased activity in brain pain centers, as well as a decrease in reported pain by the patients. A clinical trial of acupuncture therapy for 570 people with knee osteoarthritis demonstrated a 40% decrease of reported pain and a 40% increase in function of the affected limb.

A clinical study in 2010 involved 40 dogs that were paralyzed from an intervertebral disc rupture in their thoracolumbar spine (mid-back). To be included in the study the dogs could not have received treatment in the first 48 hours of paralysis, which is the optimal window of time to perform back surgery. The dogs were divided into 3 treatment groups. The dogs in group 1 had back surgery. Group 2 received acupuncture with electrical stimulation as the only form of treatment. Group 3 had surgery plus electro-acupuncture.
Acupuncture treatments were performed weekly for up to 6 months and discontinued when patients were able to walk. The proportion of dogs that were able to walk was significantly higher in the two groups that received acupuncture. There was no significant difference in the proportion of “acupuncture only dogs” and “surgery plus acupuncture dogs” that did not improve.

**The Art of Acupuncture: Traditional Chinese Medicine (TCM)**
Traditional Chinese Medicine is a complete system of medicine used to prevent, diagnose and treat all types of health conditions. Modalities used in veterinary medicine include acupuncture, herbal medicine, nutrition or food therapy, and massage (Tui-na) therapy.

A central concept of TCM is that a form of energy called Qi (pronounced “chee”) flows through our bodies. Qi is described as the life force or energy that activates and maintains life. Qi is said to accumulate in the internal organs and flow in channels that form a network to encompass the entire body. Health is influenced by the flow of Qi; an imbalance or stagnation is associated with disease or discomfort. Any painful condition is considered a stagnation of Qi.

Acupuncture promotes the normal flow of Qi in order to maintain or restore balance. The acupuncture points are located where branches of the channels or meridians rise to the surface of the body. The points are located in subtle depressions in the skin and muscle, and have specific anatomic landmarks to identify them. Each point has multiple, specific functions associated with it. Examples include: immune system stimulation or sedation, pain relief, calming anxiety, controlling vomiting or diarrhea, relieving sinus congestion, specific internal organ support (heart, liver, kidney, etc.). An effective treatment requires the selection of an appropriate combination of points to achieve the desired effect, and may be modified over time to address the patient’s needs.

**Clinical Applications of Acupuncture**
Acupuncture can be used as the sole form of treatment in some patients. More often it is combined with other forms of holistic care and conventional treatment modalities. I always integrate my treatments with the care provided by the patient’s primary veterinarian. For some patients the goal is to provide comfort and improve their quality of life.

The following is a list of conditions which are appropriate to consider acupuncture as a component of the patient’s care. The list is by no means exhaustive, but includes conditions I have personal experience treating.

- **Musculoskeletal disorders**: arthritis, dysplasia, muscle tension, weakness, pain, injuries
- **Nervous system disorders**: seizures, intervertebral disk disease, lumbosacral symptoms, pain from nerve root compression, weakness from nerve deficits, megaesophagus
- **Respiratory conditions**: asthma, sinusitis, bronchitis
- **Gastrointestinal disorders**: gastritis, inflammatory bowel conditions, colitis, constipation
• **Urinary tract disease:** inflammation, recurrent infections, incontinence
• **Skin problems:** allergy related skin problems, granulomas
• **Behavior problems:** anxiety
• **Internal organ disease:** support for kidney and liver health, for example, and to address symptoms related to the of illness
• **Cancer patients:** Acupuncture and herbal therapy provide supportive care, reduce some side effects of cancer medications, and improve appetite and energy. Excellent therapy for hospice care.

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**Spinal Manipulation**

Spinal manipulative therapy focuses on the relationship between the structure and function of the body, and the role of the spine in biomechanics and movement.

The goal of therapy is to promote, or restore, pain free, optimal motion to the individual joints of the spine and extremities, as well as balanced biomechanics of the entire body. Optimal motion requires peak flexibility and range of motion of all joints, normal muscular and skeletal function, normal nervous system function, and absence of pain. Restricted motion in any part of the body forces other joints to compensate. The strain on those areas can lead to problems in the joints, nerves, muscles, ligaments, vascular and connective tissues. The effect on a patient may be reduced joint motion and joint stiffness, muscle tension, muscle atrophy, reduced circulation, reduced nourishment of joint cartilage, pain and development of chronic pain pathways. Cartilage is nourished like a sponge, imbibing and releasing joint fluid as the joint is loaded and unloaded. If a limb is not carrying normal weight this process of nourishment will be compromised.

Altered mobility of the spine may also affect range of motion in the extremities resulting in changes in stride length, posture and weight bearing. Chronic alterations in the biomechanics of the spine may contribute to degenerative joint disease when extremities chronically bear weight in abnormal patterns.

**Which patients may benefit from spinal manipulation?**

• **All cats!** Every cat is an athlete, and the jumping and impact of landing presents a strain to their joints. Many people notice that their cats don’t jump as often or as high as they used to, or that they hesitate to jump. These cats may have biomechanical joint restrictions and may be in pain.

• **Active dogs** playing Frisbee, catch, and engaging in rough play with their canine or human friends.
• **Performance dogs** in agility, fly ball, conformation; herding and hunting dogs.
• **Geriatric dogs and cats** with decreased mobility, osteoarthritis, and a life-time of wear and tear on their joints.
• **Patients with musculoskeletal or neurologic disorders**. Any condition (including surgery) that causes pain and/or lameness results in posture and gait changes that may lead to fixations and further compensatory problems.
• **As preventive care for every patient!** Maintaining a properly balanced body throughout life will aid in preventing muscle and joint problems.