



*Acupuncture* has been defined as 'the insertion of a solid needle into the body with the purpose of therapy, disease prevention or maintenance of health' (Acupuncture Regulatory Working Group, 2003). It is part of one of the world's most ancient systems of medicine - Traditional Chinese Medicine (TCM), being used to treat humans for about 5000 years. They discovered that animals have similar meridians and reflex points to humans. One of the earliest records of veterinary acupuncture was 3000 years ago in India for the treatment of elephants.

Acupuncture is growing in popularity, and is an accepted form of complementary, holistic medicine for people throughout Eastern and Western medicine. In Human and Veterinary medicine many clients are seeking a more 'natural' and effective way of healing. With the support of strong clinical and research evidence, the Western medical community (while at first skeptical), are accepting the validity of this form of therapy, especially in management of chronic pain and to aid healing. Western medical etiology, pathophysiology, diagnosis, and treatment should be considered before applying acupuncture.

### *East vs West*

It has sensibly been pointed out by western medicine, that the alternative therapies are not miracle cure-alls, anymore than technologically enhanced conventional methods. Both conventional Western medicine and alternative medicines have their strengths and weaknesses. Both have risks and neither are 100% safe, although acupuncture has few side-effects known to western pharmaceutical intervention.

Ideally, conventional Western and integrative medicine can be used together so that the strengths of one compensate for the weaknesses in the other. This requires an intimate understanding of each system so that it can be properly applied. It is vital that acupuncture is only performed by a trained acupuncturist and is therefore both safe and effective.

There are some fundamental differences in the approach or perspective when treating with the conventional Western medicine approach or TCM. In general, conventional Western medicine believes in control and is more mechanistic; TCM believes in balance and is more energetic. TCM practitioners recognize the disease as an imbalance in the body. They understand the body is an integrated, energetic structure and that disturbance of energy flow creates a disease in the whole organism.

Both systems rely on medical history and physical examination to make a diagnosis or identify a pattern. Western medicine adds in diagnostic tests (e.g. blood tests, radiographs) vs. palpation of the pulse and the shu points in TCM. In both cases, an experienced clinician interprets the findings and chooses an appropriate therapeutic regimen.

The goals are essentially the same: to promote health and to prevent disease. Through integration of the two systems, one may take advantage of the strengths of each while minimising the weaknesses. In my Physiotherapy practice I find a combination brings better results.

### **HOW ACUPUNCTURE WORKS:**

There has been much research on acupuncture in humans, which has demonstrated that it can elicit a strong multi-system physiological response. The World Health Organization concluded in 1979 that 'Acupuncture is clearly not a panacea for all ills but sheer weight of evidence demands that acupuncture must be taken seriously as a clinical procedure of considerable value'. Some 5000 years of application on a sizeable segment of the world's population makes acupuncture arguably the most widely practiced and thoroughly tested medical technique in history.

Acupuncture was found to be beneficial in cases in which analgesics and anti-inflammatory medications have been ineffective or have demonstrated side-effects, where surgery is not recommended. It provides long-term pain relief and also increases circulation to the affected areas and decreases inflammation.

Frequency and duration of treatment depend on the animal and the ailment. Duration can vary from 10 sec to 30-60 mins. The effect may be immediate or require a few treatments to have an effect. Generally, for arthritis, initially treatment may be recommended 1-2x/wk for a few weeks and then reduced for maintenance to monthly or even 6 monthly treatments - (much like western approach to treatment plans). 3-4 treatments are usually enough to judge whether or not the therapy is working. Acupuncture is extremely well tolerated in dogs, horses and generally in cats. Some animals are profoundly sedated at the time of treatment and often after treatment.

## Acupuncture has been found to be effective in a number of ways:

- **a) Segmental effects:** Stimulation of A $\delta$  fibers by acupuncture needles stimulates encephalinergeric interneurons (ENC) in layer II (substantia gelatinosa) of the dorsal horn of the spinal cord. These interneurons inhibit substantia gelatinosa cells from onward transmission of C-fibre pain. Thus, acupuncture 'competes' with C-fibre pain at the dorsal horn. This presynaptic effect is most potent at the segment stimulated i.e. when the needle is close to the relevant dorsal horn. Hence the neurophysiological approach places needles directly/close to the area of pain for a musculoskeletal condition; or for a visceral condition needling an area that is innervated by the same spinal nerve as the disordered organ(s) in question (hence the term 'segmental' acupuncture)
- **b) Heterosegmental effects:** The acupuncture stimulus (of A $\delta$  fibers) continues via crossed spinothalamic tracts to the brain. Consequent release of endorphins (from the periaqueductal gray). Serotonin and noradrenaline work (via descending inhibitory pain pathways and humorally) to inhibit pain at every spinal segment. The effect is most potent at the segment stimulated.
- **c) Trigger points** are dysfunctional areas of increased sensitivity within a muscle (tending to occur in motor endplate zones), which may be related to joint pathology, visceral pathology and nervous system pathology. There are local tender ('hyper-irritable') spots located in a band of skeletal muscle that produce pain on compression. This is felt locally, but can also evoke pain in a characteristic referral pattern and a local 'twitch' response. They may be associated with pain, reduced range of movement, or lameness. Factors such as arthritis, trauma, stress, postoperative status and infection may predispose to the development of trigger points in animals. The use of an acupuncture needle (dry needling) to release trigger points is arguably the most efficient way of treating trigger points vs. massage.
- **d) Anxiolysis Acupuncture** Acupuncture often has a transient anxiolytic effect on many human and animal patients – they become sedated and relaxed, sometimes for a day or two after treatment.
- **e) Vasodilation** When the needle is inserted, local neurotransmitters are released (especially CGRP) which are potent vasodilators. This localized vasodilatory effect enables elimination of pain-producing substances such as bradykinin, prostaglandins and other inflammatory products.

## TYPES OF NEEDLING

Acupuncture can look and feel very different depending upon the training, approach, and sometimes, philosophy of the practitioner delivering the treatment.

**Dry Needling** involves needling to altered or dysfunctional tissues in order to improve or restore function. This may include needling of myofascial trigger points, periosteum and other soft tissues.

**Western Acupuncture** utilises meridian points but applies it to 'western' reasoning with particular consideration to relevant neurophysiology and anatomy. It does not utilise any traditional Chinese medicine assessment methods

or paradigms. Points are stimulated to create local, spinal segmental or supraspinal pain modulating effects. **Traditional Acupuncture** examines changes in the tissues through the prism of the meridians as well as the status of the qi, blood and fluids (fundamental substances). According to acupuncture theory, qi circulates along meridians, or pathways. Each of these meridians links to internal organs and organ systems. Acupoints are the hundreds of spots along the meridians where needles can be inserted to stimulate the flow of qi, primarily affecting the muscular, skeletal, hormonal and cardiovascular systems, and producing an abundance of positive health effects. The clinical reasoning process includes information derived from theoretical constructs found in Oriental Medicine.

**Electroacupuncture** – acupuncture with the aid of an electrical impulse stimulator.

**Aquapuncture** may be used by homeopathic veterinarians with the injection of a liquid (usually homeopathic in nature) into the main acupuncture points

Veterinarians and Physiotherapists may choose to practice using any one of the forms of acupuncture needling or may possess the skills to utilise the various forms in combination, depending on their training. Utilisation of any of the above needling techniques is employed within the scope of practice and as part of an overall management approach.

## Research relevant to Physiotherapy practice:

The musculoskeletal and neuromuscular systems are the most common treated with acupuncture in Western medical practice. With respect to canine arthritis, acupuncture has demonstrated an improvement in mobility and gait in 70% of dogs treated that were no longer responding to conventional medicine to control their pain. Much of the veterinary literature supports the use of Acupuncture for treating I-V disc disease in animals. Recent literature concludes that a combination of electroacupuncture with conventional medicine is more effective than conventional medicine alone, with shorter recovery time for ambulation, relieving back pain, and decreasing relapse in paraplegic dogs with intact deep pain perception. In horses with chronic thoracolumbar pain the analgesic effect from electroacupuncture has been suggested to last at least 2 weeks. And in cats with multifocal intervertebral disc disease, Acupuncture has shown significant improvements in mobility, proprioception and spinal posture.

Acupuncture is therefore considered a valid therapeutic mode of treatment that can be integrated into Western veterinary medicine for the treatment of large, small, and zoological companion animal patients, especially in the area of analgesia.

I feel the best approach for my clinical practice as an Animal Physiotherapist is a combination of the best aspects of both Eastern and Western medicine – hence my name 'Holistic Animal Physiotherapy'.

For any questions or case discussions regarding Physiotherapy and Acupuncture to maximize your client's rehabilitation, feel free to contact me at any stage.

Kind regards  
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(Titled APA Animal Physiotherapist)